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Macworld

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20 years of the Mac



1984-2004: 20 years ago Apple revolutionized the world with its computer 'for the rest of us'. Macworld looks back on a remarkable history.



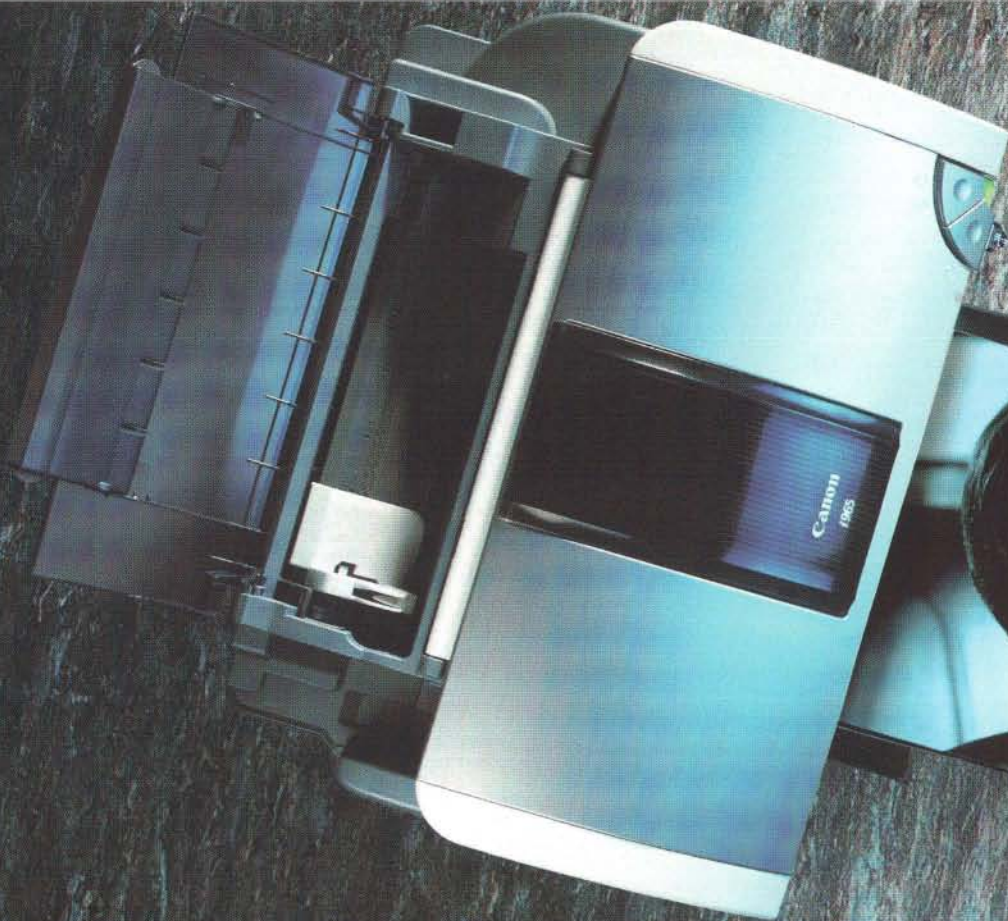
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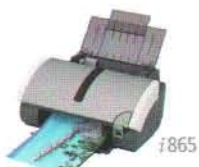
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Simon Jary
editor-in-chief

Just 20 years ago, every personal computer had a green or amber screen, and no mouse.

Remember that?

Mac's score draw

It's almost impossible to remember what it was like before Apple brought the graphical user interface into the public consciousness.

A man has recently awoken from two decades in a coma. According to his family, 39-year-old Terry Wallis's entire frame of reference is stuck in 1984. He thinks Ronald Reagan is still the US president... but then maybe so does Ronnie. Terry was only 19 when a serious car accident plunged him into a coma – not long after he and his wife had celebrated the birth of their baby daughter. She may now be listening on an iPod to the same music that Terry was buying on vinyl: Madonna, U2, and Michael Jackson (or maybe not...) are still going strong. You can even buy 1984 chart-toppers Kenny Loggins and Phil Collins on Apple's iTunes Music Store.

While Terry will be able to get to grips with the iPod pretty quickly, when he sees it plugged into a computer he's going to freak – "What the hell is that?!" "And what do you do with this?" he'll gasp when picking up the mouse. It is indeed remarkable that the personal computer as we know it today has been around for only 20 years. Before 1984 PCs had command-line interfaces with green or amber screens.

Apple changed all that in January 1984 when it introduced the first Macintosh personal computer. To say that it broke the mould is an understatement. To call it revolutionary doesn't do it justice. Here was something so different that it is rarely even referred to as a PC. Even now, it's PC or Mac. Of course, today's Windows or Linux PCs don't look too different from Macs. They don't look as good, and they aren't as intelligently designed, but they are both the same basic shape – except for Apple's latest all-in-one consumer computer, the LCD iMac, which goes to prove that the company hasn't stopped looking for the best solution in a generally retarded industry.

It's easy to recall 1984. The top grossing movies were Ghost Busters, Beverly Hills Cop, Indiana Jones and the Temple of Doom, Gremlins, and The Karate Kid. Prince was at the top of the charts with When Doves Cry, Tina belted out What's Love Got To Do With It, and Lionel sang Hello. This is recreated at School Disco events and endlessly replayed on satellite movie channels. Yet it's almost impossible to remember what it was like before Apple brought the graphical user interface (GUI) into the public consciousness.

There have been many technological advances in the past 20 years, but few have entered our lives with as much simple effect as the mouse-controlled GUI computer. The Internet was around long before 1984, but it was the GUI and then the World Wide Web that made it such an influence today. George Orwell's 1984 was a frightening place of totalitarianism and lack of personal control. The possibilities of the Web are the very antithesis of Orwell's vision of Big Brother. The Internet is our deadliest weapon against dictators and one-view histories.

When Terry logs on to the Web, he might be surprised that the Cold War has turned into a battle against extremist

terror. But he'll marvel more at the opportunity to send his own videos digitally across the world in seconds, iChat with family, download albums and carry hundreds of them round with him in a tiny white case, and print high-quality photos inexpensively in his own house (without a gallon of chemicals and the curtains drawn).

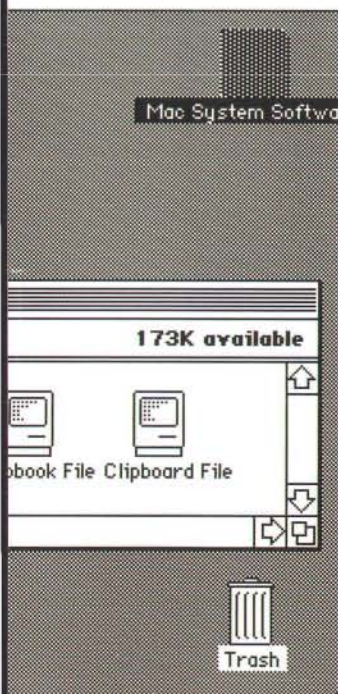
It could be argued that Apple was in a coma itself for several of its 20 years of Mac making. Certainly, Microsoft took Apple's lead and ran off with the market all too easily. Apple spent too much effort suing other GUI OS developers, and not enough working with third parties. For all the moaning about Microsoft's proprietary technologies that are the foundations of its monopoly, Apple too was arrogant enough to believe only it had the brains, wherewithal and right to develop the techs the Mac required. Licensing the Mac OS was done way too late, cannibalizing rather growing Apple's market. And when it had run out of ideas and saw Windows' growing dominance, the company couldn't even sell itself to an army of suitors.

Despite the revelation that he initially tried to stop the Macintosh project, it's undeniable that Apple co-founder Steve Jobs plays a pivotal role in Mac's history – alongside the 19 other 'Most important people in the Mac's history' that we've gathered together in our special anniversary feature, and a bunch of unsung heroes (and villains). Remarkably he probably wasn't a Mac user for three fifths of the Mac's first 20 years. After leaving Apple in 1985, he set-up NeXT, and used that company's computers until he returned triumphant and \$430m richer in 1997 having sold NeXT to Apple the previous year. But in the six years since, Apple has turned round from being a rapidly fading star into the recognized world leader in computer innovation again.

In 1984 the Macintosh dragged the mouse out of a long development hibernation and eventually onto the desktops of nearly every computer user on the planet. The Mac was the first computer to offer Ethernet networking as standard across the range, and the first to offer a CD-ROM as a built-in option. The PowerBook was the first successful laptop. Apple's QuickTime ushered in an era of multimedia, and FireWire enabled a generation of fast and affordable digital camcorders. Apple has recently pioneered wireless networking as a standard feature, and has virtually created a new way of distributing and listening to music.

The world that Terry Wallis has woken up to – despite the continuing presence of Kenny Loggins – is a quite different one than that which he remembers. A whole lot of that positive change and opportunity is thanks to the Mac and its extraordinary influence on technology and the ways we live our lives today. Windows wears the GUI crown, but it was Apple and the Mac that did the championing. And that's why 2004 isn't much like 1984 at all, as Terry is no doubt discovering right now.

MM



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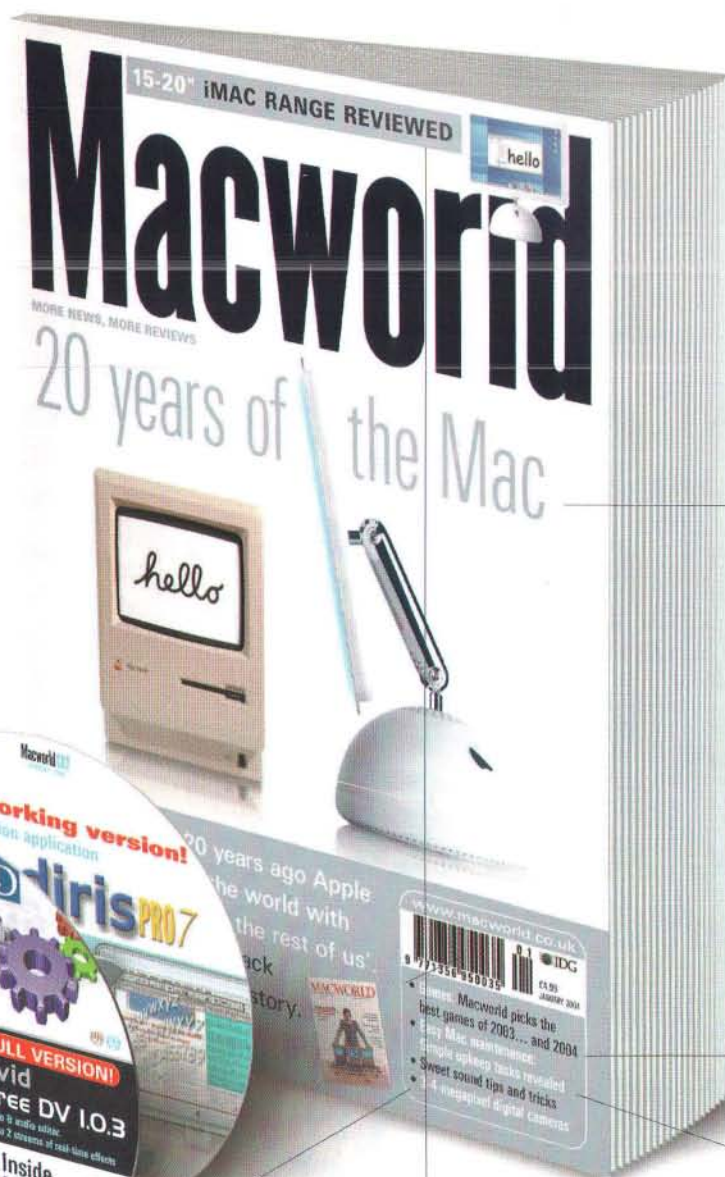
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FULL VERSIONS:
4D 6.4.8 and Avid
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Paul Hooper spends time with famed Googlewhacker, stand-up comedian and Mac user Dave Gorman.

December 26, 2003:

Stuart Wilkes of Mac consultancy Iscentia advises small and large businesses how to manage the move to Mac OS X.

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Macworld news editor **Jonny Evans** on Apple's achievements in 2003, and the year ahead.

January 9, 2004

Nick Spence on the ever-increasing importance of Apple's notebook products to Liverpool School of Art and Design across a wide range of creative subjects.

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"Everything you think you know about colour management is wrong," says **Alistair Dabbs** in his passionate argument that designers should dump CMYK-based workflows in favour of RGB.

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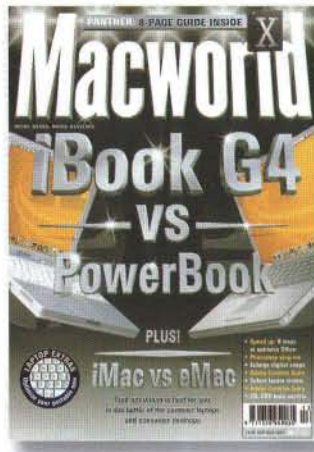
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Tomorrow people

Simon Jary's editorial in the October 2003 issue of Macworld struck a sour note when he suggested that "keeping up to date is an essential part of our relationship with technology".

As a technologist I normally would agree, but in this case I feel he has left out some important factors in the consideration – such as the cost of training and the familiarization period when output is lower. There's always a balancing act between evaluating the new products and determining when to invest to stop falling behind.

Upgrading to OS X is not a simple matter. Having spent on the hardware upgrade, you're forced into deciding if the only way to make use of the increased power is to spend a significant sum on software upgrades and peripherals to replace incompatible software and hardware.

Bryan Pannett

Not a new customer now

I have only ever used IBM-type PCs. Recently, after reading Macworld, I became interested in the Power Mac G5. I found three Apple resellers in Oxford. I telephoned each one, but to my astonishment, I met with overwhelming indifference. Not one had a G5 to demonstrate. None bothered to ask whether I was a home user or business buyer. One representative spoke to me on the assumption that I was not only computer illiterate but stupid, to boot. The comparison with the enthusiastic encouragement and assistance I received when I made purchases some years ago could not be more marked. Perhaps Apple is so successful in the UK that it has no need of new customers?

D R Bright

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Apple Store woe

Don't buy from the Apple Store unless you know how to speak Apple double-talk. "Build time: 1-2 days" translates in English as "One-two weeks". "Express Delivery" actually means "A round-the-world trip taking nine days".

Calling a nine days "express delivery" is just outright lying.

Kenny Millar

■ See News, page 26

1.8GHz G5 fury, pt 1

Having only just having bought a 1.8GHz Power Mac G5 28 days ago, I was angry to discover that less than a month after this purchase that Apple has – without any prior warning – released a dual-1.8GHz model. The £50 price difference between the new model and my machine is negligible considering the specifications.

I feel as if I have been misled, since it's under three months since the single-processor models were released. I'm very angry about the way that Apple has behaved in this instance, particularly as I have just got off the phone to a very unhelpful woman in Apple Customer Services, who didn't seem to give a damn. Great way to keep a small customer base...

Richard Jenkins

1.8GHz G5 fury, pt 2

I am absolutely shocked with Apple's latest retail move. I couldn't believe my eyes when I saw a Dual-1.8GHz appear on the Apple Store Web site, and then stunned to see the price-tag of £1,899 inclusive of VAT. I was one of the mugs who had just spent £1,849 on a new single 1.8GHz G5, less than two months ago.

Surely no one believed that there would be such a huge change in the G5 lineup so quickly.

I feel cheated and disgusted by a company that I had always respected. In the past I have had a 9600, G3 and a G4. Now I am an owner of a seemingly overpriced and already discontinued 1.8GHz G5. Thanks, Apple.

Gareth Evans

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Branch out, Apple

I've always loved the seamless styling of Apple, the sleek stainless steel and the glacial white casings. But the beautiful atmosphere of the office is spoilt by the big, greasy monstrosity that is an inkjet printer. Please Apple, produce top-notch printers to go with your amazing products. Apple has proven its worth in the world of accessories with the iPod.

Brad Clark

Index footnote

It would be most helpful if you could include an index of your software CDs that gives some short description of what the applications actually do. Many of the application names are not descriptive of their function, so any installation is a lottery.

Robin Harris

MW: We do try to describe the main items on each Macworld CD, but with nearly half a million files on our CDs so far, we simply don't have to space to explain every single piece of software. We will however try to squeeze as much explanation into the CD pages as possible.

iBook to PowerBook hack

I bought a 12-inch PowerBook in the summer, and am now seeing an iBook with almost equivalent specs for £450 less than I paid. Never mind, one of the reasons I bought it was for the monitor-spanning feature.

I like to work on digital-photography images on a CRT monitor. With the PowerBook I can do this at a different resolution from that on the laptop's screen – whereas with the iBook I can only mirror the built-in display at a 1,024-x-768-pixel resolution.

Not so, it seems. Using the OF Hack, it's possible to change the iBook's firmware to allow monitor-spanning on the iBook. The suggestion is that the graphics card has this capability, but is disabled in firmware on the iBooks – possibly to create a distinction between the iBook and PowerBook.

I don't know the legal position regarding using this hack. Would it invalidate the Apple warranty?

Here's a link to a page on XLR8YourMac about the OF Hack: www.xlr8yourmac.com/systems/iBook_dual_display_mods.html.

Tom Burke

MW



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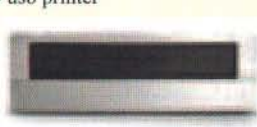
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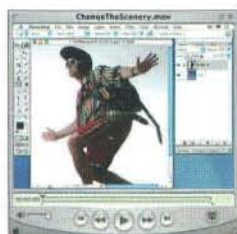


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Requires Mac OS X 10.2.4 – 10.2.8 running on a 667MHz or faster G4. page 14

Cover CD1

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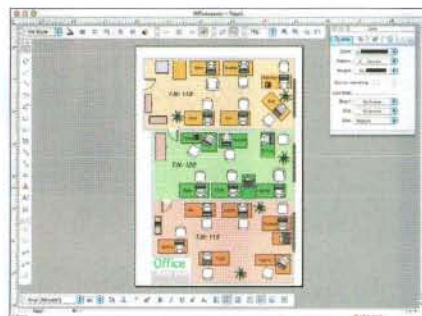
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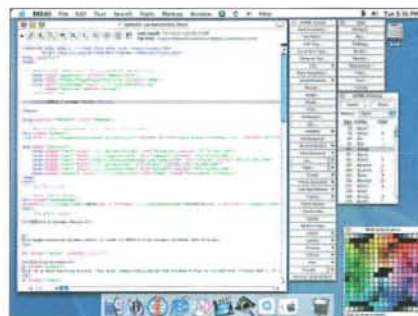


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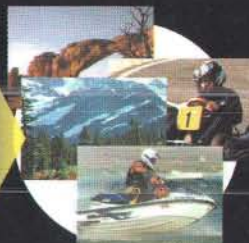
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JANUARY 2004

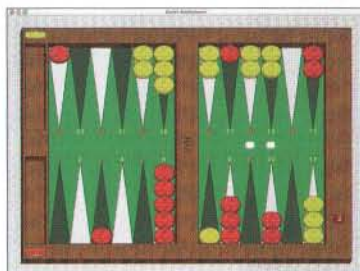
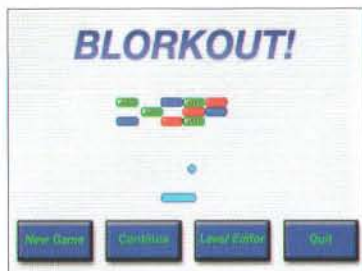
FAULTY COVER CD-ROM?

- If your cover disc is broken, please contact Minesh Patel, on 020 7831 9252, or email at mineshp@macworld.co.uk for a replacement.
- If your cover CD doesn't seem to work as it should, please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email cd@macworld.co.uk
- Drag installer files from the CD to your desktop before clicking on them.

GAMES WORLD



DEMOS & GAMES



Arcade, board and strategy games – this month's Top 10 Shareware Games has a nice mixture of all three.

On the arcade front there's **Armagetron** 0.2.6.0, a high-speed Tron bike-a-like, the mini paddle-bashing **Blorkout** 1.0.0, and the ball-avoiding **BoundSea**.

If you like playing board games then check out the latest incarnations of **David's BackGammon** (4.8.1) and the jigsaw puzzler, **JiXii**, plus **Vektor3** 3.2.1, one of the best chess games on the Mac.

For strategists there's **Escape** 1.6.5a, **BoXiKoN**, and a neat Tetris clone in **Quinn**. Finally, there's the quite unique **Spin Crisis**, a fabulous rotational ball game.

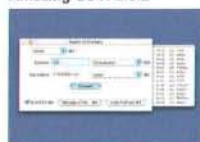
(Top row) *Blorkout*; *David's BackGammon*; *Vektor3*
(Middle) *Spin Crisis*; *Escape*
(Bottom) *BoXiKoN*; *JiXii*

MAC OS X/9 SHAREWARE & UPDATERS



Over 180 useful programs, all subdivided into categories, including:

Absird 1.2
Address Book Importer
Address-o-sync
Amazing OS X 2.6.2



ApplesToOranges 1.1.2
Archive 5.1.3
Auctioneer 1.1
AutoPairs 2.1.2
BuzZer 0.2.2
CandyBar 1.6.1
Classic Menu 2.7.2



DiscBlaze 2.0
Doublet Scan 10.1.0
DVBackup 1.1.5

Exif Untrasher
FileSyncronization 1.2.4
Flash AV players
Fontabulator 2.0



FontCatalog X 1.2.1
FR-PhotoStudio X 1.6.3E
FUSKey
Hackposé 1.1
Hermes
HimmelBar
ICeCoffEE 1.4
IconBuilder 4.1



IconCompo
IconizerProX

IC-Switch 1.3
iEnable 2.1



Impression 1.8
iSparx 1.2
JunkBroom
Logorrhea 1.2.2
Mac Sweeper 1.5
MailPictures 2.4
MemoryStick 1.3
MoreClocks 3.1.3
More iChat Smileys 2.1
MoreInternet 1.1.1



OmniOutliner 2.2.6
PDF plugin 1.2.3
Prefling 2.0

QuickAccessCM 1.5.3
Serial Mail 1.3
SharePoints 3.3.0



Sweet MIDI OS X 2.0.6
The Blob 1.0
TransparentDock 2.2
UnCoverIt 2.0.1

UPDATERS
This month's dedicated updaters folder includes over 40MB of patches to bring many popular applications bang up-to-date, including:
Corel Painter 8
FontDoctor X 5.5.3
Formac Devideon 2.6.1
NAV 7/8/9 (Nov 03)
Universe Animator 5.0.5
Vicomsoft FTP Client Upd
Virex OS X (Nov 03)
VirusBarrier X 10.1

DON'T MISS...



Cool Extras

Four new sets of icons just for Mac OS X!
• 23 excellent smiles from tab@designmood.com
• Six pizza icons plus 11 toppings (I kid you not!) from Tom Woodhams



Mac ISP

Access offer from Moose Internet Services.

Netscape/Internet Explorer/Opera

Netscape X 7.1, IE X 5.2.3, IE 5.1.7 & OE 5.0.6, and Opera 6.0.3

Plus...

... many thanks to Simon Youngjohns (youngjohns@hotmail.com) for our CD icons.

SHAREWARE

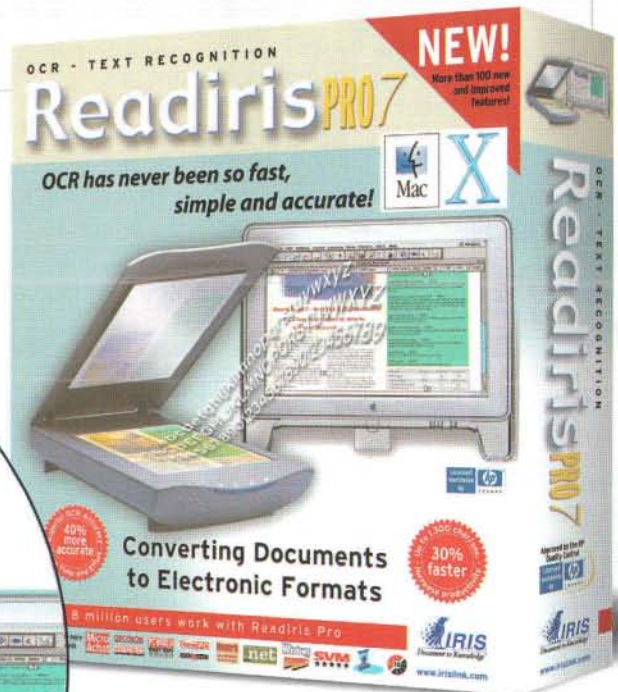
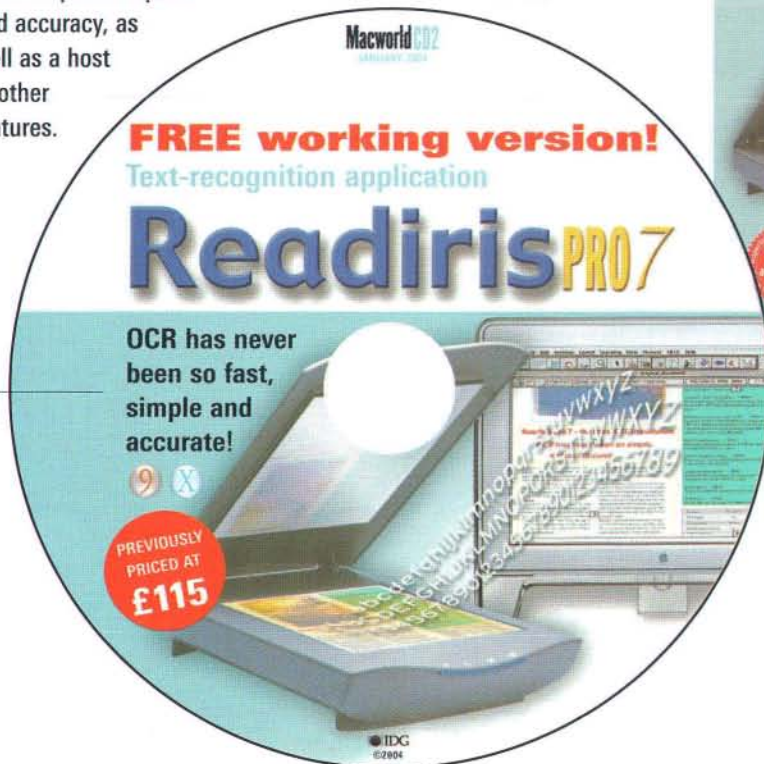


Shareware is a distribution method, not a type of software. It makes fitting your needs easier, as you can try before you buy. Shareware has the ultimate money-back guarantee – if you don't use the product, you don't pay for it. If you try a Shareware program and continue using it, you are expected to register. Support shareware authors so that they continue to provide high-quality programs for the Mac.



Readiris PRO 7

On this month's second CD we have the full version of leading OCR (optical character recognition) software Readiris Pro 7.6, as well as a 30-day demo version of Readiris Pro 9. Both versions run on Mac OS X and in Classic, but version 9 offers improved speed and accuracy, as well as a host of other features.



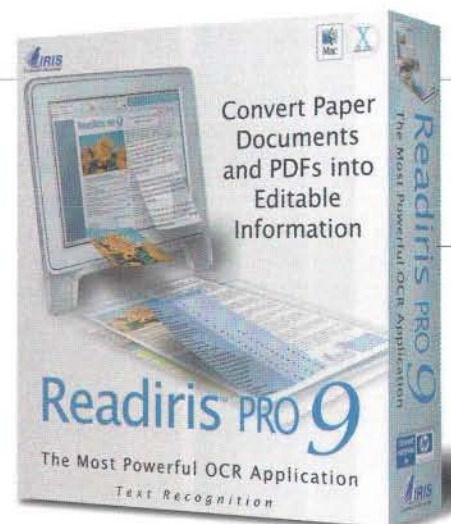
Get Readiris Pro 9 for just £69!

Not only is Iris offering version 7.6 for free, but it is also offering Macworld readers a special upgrade discount of £69, instead of the normal £82. To take advantage of this offer contact Widget on 0800 138 1639, or visit www.widget.co.uk.

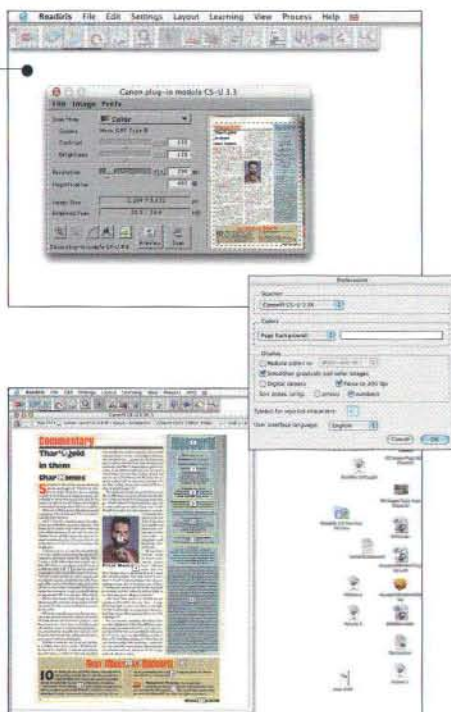
■ See page 62 for an in-depth review of Readiris Pro 9, and page 110 for a guide on how to save lost documents using Readiris Pro 7.6.

What's new in Readiris Pro 9

Improved speed, accuracy, page orientation, and OCR engine; up to 104 languages recognized; ability to open PDF files – even read-only files; new image output, user interface and colour thumbnails



Minimum Specs for Readiris Pro versions 9 and 7.6: Mac OS 9, OS X, PowerPC processor, or better.





Mac OS X v10.3 Panther



Evolution of the species.

MacExpo 'best ever'



While other IT trade shows report a downswing in attendance, the UK Mac community remains buoyant, with this MacExpo again breaking attendance records.

The event – staged at Islington's Business Design Centre from November 20-22 – attracted 22,844 visitors over three days, with organizers saying this was a "sparkling result in a difficult market".

Showgoers faced many difficulties and distractions over the three days, including an anti-Bush demonstration, poor weather, and England's victory in the final of the Rugby World Cup. Attendance, though, was up by 600 on last year.

The event offered an expanded schedule of masterclasses and seminars, which attracted 1,784 visitors. A presentation by Adobe's senior creative director Russell Preston Brown emerged as the personal show highlight for many.

Many opening-day visitors braved rain to queue from the early hours to secure early entry. One of these was 17-year old A-level student Jonathan Blackmore, from Tipperary in Ireland, who said: "I love Macs and Apple because they're cool, reliable and the design is brilliant."

London-based Graphic designer Jane Crawford, 23, was another early bird. She said: "I'm here to take a close look at Creative Suite products."

Another graphic designer Martin Smith, 33, was aiming to test QuarkXPress against InDesign: "In my business it's essential that I invest in the applications that will form the backbone of tomorrow's publishing industry."

Show visitors were met by the sight of Apple's huge stand, and a huge banner reading: "Mac OS X Panther – evolution of the species."

Many of those visiting Apple's stand were considering the move



'We did more business on the first day than during the entire event last year'
Apple Financial Services UK and Ireland sales director Jon Singleton



machine." Graphic designer Peter Smith praised Apple for "coming up with innovations every year that make it easier to do the work we do".

Apple Financial Services UK and Ireland sales director Jon Singleton revealed that the company "did more business on the first day of the show than it did during the entire event last year".

Other companies to launch products at the show included Epson, HP, FileMaker, Microspot and CS Odessa launching ConceptDraw (see page 37).

Event director Bob Denton said: "Apple has been tremendous this year. As well as attending the show it took over Islington's Angel tube station, with iPod ads everywhere, big banners outside and iPod posters mentioning MacExpo.

"MacExpo has its own charm. Visitors know what they want and why they're here. I think it's a nice show."

Apple UK managing director Mark Rogers said Apple was "very happy" with MacExpo's showing: "We'll look at whether the format and location is right in future, but we're really happy. It's a good show, and an important one to us."

Denton agreed: "We understand how to work together quite well."

from Mac OS 9 to OS X. Photographer Aletta Killin said: "I haven't upgraded to OS X because I was waiting for the software I use to be upgraded. Now the applications are there, I think it's time to upgrade."

Other major attractions were the 20-inch G4 iMac and the dual-1.8GHz G5 Power Mac, both of which were launched two days before the show.

Banker Richard Herschy said: "The G5 was definitely the highlight of the year for Apple, it's a fantastic

.Mac bolstered

Apple has again improved the package it is offering to .Mac subscribers.

The latest bonus offers include a training resource and a collection of iMovie sound effects from Skywalker Sounds. These are available through a brand-new Members Only folder that appears in iDisk – allowing members to drag-&-drop new software directly to the desktop.

Also on offer are thousands of AAC-format music tracks from Freeplay Music.

The training components include a guide to the iLife applications in the form of 36 movies for basic and advanced topics.

The improvements to the .Mac package seems to be having the desired effect, as Apple CEO Steve Jobs told analysts in November that 86 per cent of subscribers have signed up for another year of .Mac.

say organizers, exhibitors and showgoers



Punters get feel of new 20-inch iMac

Apple used MacExpo 2003 to give the UK public its first glimpse of the 20-inch iMac. The 1.25GHz iMac costs £1,749 (including VAT) and supplements Apple's existing 15- and 17-inch iMacs. Apple claims that its new 1,680-x-1,050-pixel 20-inch iMac offers "almost twice" the screen area of the 15-inch iMac. It ships with Mac OS X 10.3 Panther pre-installed.

Apple's senior vice president worldwide product marketing Phil Schiller said: "The new iMac builds a

design that remains unmatched in the industry. By offering a huge, gorgeous 20-inch widescreen display, Apple has once again raised the bar on what customers can expect from an all-in-one desktop."

It's equipped with two FireWire 400 ports and three USB 2.0 ports. It's Airport Extreme-ready, and customers can choose Bluetooth compatibility as a £35 build-to-order option. The new iMac includes a 4x SuperDrive (DVD-R/CD-RW) optical drive.

Other features include 256MB RAM, an 80GB,

7,200rpm hard drive, and an NVidia GeForce FX 5200 Ultra graphics processor with 64MB of DDR video memory. The software bundle includes iTunes 4, iPhoto 2, iMovie 3 and iDVD 3.

In an interview with Macworld, Greg Joswiak, Apple's vice president of hardware products worldwide product marketing, said the 20-inch iMac is a "boundary product" that appeals to both consumers and professionals – and that the it has attracted a lot of attention from professional users.

Rogers confirmed that the UK creative sector is seeing signs of recovery: "Confidence has returned to the advertising sector, meaning many existing Mac users are beginning to upgrade. With the Power Mac G5, Panther and XPress for OS X, there's a compelling reason to upgrade now."

TV graphic designer Peter Smith said: "Advertising revenue has definitely gone up, so there's a more positive attitude in the industry, but budgets are still limited and management expects us to do twice as much work without the resources, because over the past few years we've proven that we can. There's still that pressure to do more with less."

Rogers confirmed that Apple would continue working with MacExpo's organizers: "It's a good relationship, and we'll continue to work it out and see how we get on."

MacExpo is also expanding, with another show tabled for June 2004 in Germany. Denton confirmed that

work on this is "going well", while Rogers revealed Apple was "in discussions" concerning that show.

The show's success means exhibitors have already rebooked 35 per cent of the exhibition space for 2004.

Mark Newcombe of AT Computers said: "We were really impressed. Thursday was excellent and Friday was even better. We've already booked for next year."

Rapid Group director Paul Hopkins revealed that the company took £25,000 on its software stand on Thursday, and that it "is seeing good long-term leads".

'Constant traffic'

Adobe marketing director Mark Floisand said: "We have seen constant traffic for both our at-stand product demos and masterclasses. This show has been a great opportunity to meet our customers."

AM Micro's Steve Hawkins said: "There has been lots of interest in new products, and we've seen a lot of design professionals coming through the door."

Jonathan Cole of Computer Warehouse was another who agreed that MacExpo 2003 had resulted in healthy returns: "We've made

thousands of sales, and there has been consistent interest in Apple."

Resellers were impressed by the quality of customers attending the show. Rapid Group sales director Garrett Doyle said: "People are at the show to buy things, not just to evaluate products with a view to buying later."

Dreamtek managing director Tristan Blackley said: "We've seen a lot of interest in audio – everything from low-end to high-end sales."

Event organizers and exhibitors also praised the Mac Support Company, which delivered technical support during MacExpo. "They have been invaluable," said Denton.

Islington's Business Design Centre is confirmed as the venue for next year's event, which will run from November 18-20.

Denton said: "The show is growing, and the other option is Olympia, but although it's bigger, in Islington you've got a lovely location and 80 places to eat and drink outside. I don't think we've outgrown this venue yet."

The exhibitors seemed to agree. AM Micro's Steve Hawkins said: "We'll continue to do the show, as long as it doesn't move to Olympia." **MW**
Jonny Evans, Karen Haslam



Arcade heaven

Expo 2004 was host to a huge games arcade comprising 18 1.8GHz Power Mac G5s loaded with the new titles.

Showgoers queued to play games that included: Disney/Pixar's Finding Nemo and Nemo's Underwater World of Fun, Engie Benjy, Time for Teamwork, Total Immersion Racing, Dungeon Siege and Rayman 3: Hoodlum Havok. There was also a networked version of Unreal Tournament 2003.

MacGames technical director Tony Pollard said: "We were unbelievably busy, and sold out of Finding Nemo on day one. The show gets better each year, and we'll be here in 2004."

■ Around 5 per cent of adults have received help using the Internet from children aged 5-8, British Telecom claims.



MacExpo show stoppers



HP ScanJet 4600

The Macworld Best of Show Awards for MacExpo 2003 represent the most exciting new hardware and software products.

To be eligible for consideration products must either debuted at MacExpo 2003 or generate excitement on the show floor. All prices quoted are inclusive of VAT.

"Macworld Best of Show Awards represent a highly coveted honour within the Mac industry," said Macworld editor-in-chief Simon Jary.

The nine awards went to:

Apple 20-inch iMac Apple's new £1,749 iMac bridges the gap between Apple's consumer and professional offerings. Read our review on page 50, and also see page 19.

Adobe Creative Suite Adobe CS (£665) brings together new versions of Photoshop, Illustrator, InDesign, GoLive, Acrobat 6.0 Professional, and Version Cue file manager, in a comprehensive design environment. The cross-application integration and workgroup-friendly features promise new opportunities for both publishing pros and prosumers.

Epson Stylus Pro 4000 At just £1,757 Epson's A2-format printer offers swift photo-quality output at a price that delivers oversize printing to

Macworld BEST OF SHOW MACEXPO LONDON 2003

a wider market. The printer features Epson's eight-colour ink system for the widest possible colour gamut.

FileMaker Meetings and Tasks

The company has taken a great step forward in catering for the common needs of business users with two new productivity applications. See Product News, page 37.

Griffin RadioShark Griffin's

Technology's AM/FM radio is a shark-fin-like radio that can time-shift record, pause, play and record local airwaves, and offers Internet audio broadcasts. It costs £54 and integrates neatly with Apple's iPod.

HP ScanJet 4600 HP's ultra-thin, high-resolution scanner adds a touch of class to desktop scanning with its tough polycarbonate viewing-window and chemically treated tempered glass. The £149 scanner offers

photo-quality results at 2400-dots-per-inch optical resolution and 48-bit colour, and because images are scanned face up users can see what is being scanned.

Creo Tokens A Creo Token is an impressively simple solution to make file sharing convenient, fast and effective. With one click users can create tokens that represents files they wish to send via email or instant message, the token representing the files will be very small.

Microsoft Wireless Optical Desktop 2.0 Elite Keyboard and mouse Both keyboard and mouse have a scroll wheel that moves across screen pages sideways as well as up and down, making it easier to view wide documents and Web pages. These deceptively simple, innovative products make for a better user experience. See Reviews, page 52.

Disney Interactive's Finding Nemo A visual treat for gamers is contained within this adaptation of the hugely successful Pixar's movie, Finding Nemo. The £19.99 game, in which users get to guide Nemo and Marlin through the ultimate underwater adventure, sold out at London's MacExpo on the first day. **MW**
Karen Haslam



Griffin RadioShark



Epson Stylus Pro 4000

Powerful Panther purrs along

Panther's 150 new features and enhancements have overshadowed talk of any performance boost from the OS X update. But make no mistake – Mac users with a need for speed will find plenty to love about OS X 10.3. Macworld Labs compared the performance of Panther to that of Jaguar on two systems – a dual-2GHz Power Mac G5 and a 1GHz Power Mac G4 – in six task-based tests. The G5 system using Panther

finished on top of its Jaguar-running counterpart in four of our six tests; the two G5 systems finished in a dead heat in our Photoshop test. A single-processor G4 with Panther outperformed the OS X 10.2.6 system in five of the six tests. A find-&-replace command in Word X took a little longer to complete using the updated OS. Still, Panther's overall performance makes it Apple's fastest cat yet.



Macworld LAB TEST		SYSTEM	ENTOURAGE X	iMOVIE 3.0.3	PHOTOSHOP 7.0.1	QUAKE III V1.32	WORD X
	Startup	Download Email	Render	Suite	Frame rate	Find and Replace	
G5/dual-2GHz, Panther (10.3)	<div><div></div></div> 0:41	<div><div></div></div> 0:09	<div><div></div></div> 0:25	<div><div></div></div> 0:18	<div><div></div></div> 297.8	<div><div></div></div> 0:19	
G5/dual-2GHz, Jaguar (10.2.7)	<div><div></div></div> 0:47	<div><div></div></div> 0:13	<div><div></div></div> 0:27	<div><div></div></div> 0:18	<div><div></div></div> 292.6	<div><div></div></div> 0:16	
G4/1GHz, Panther (10.3)	<div><div></div></div> 0:51	<div><div></div></div> 0:11	<div><div></div></div> 0:42	<div><div></div></div> 0:50	<div><div></div></div> 79.9	<div><div></div></div> 0:31	
G4/1GHz, Jaguar (10.2.6)	<div><div></div></div> 1:00	<div><div></div></div> 0:17	<div><div></div></div> 0:50	<div><div></div></div> 0:52	<div><div></div></div> 75.9	<div><div></div></div> 0:25	
	<Better	<Better	<Better	<Better	>Better	<Better	

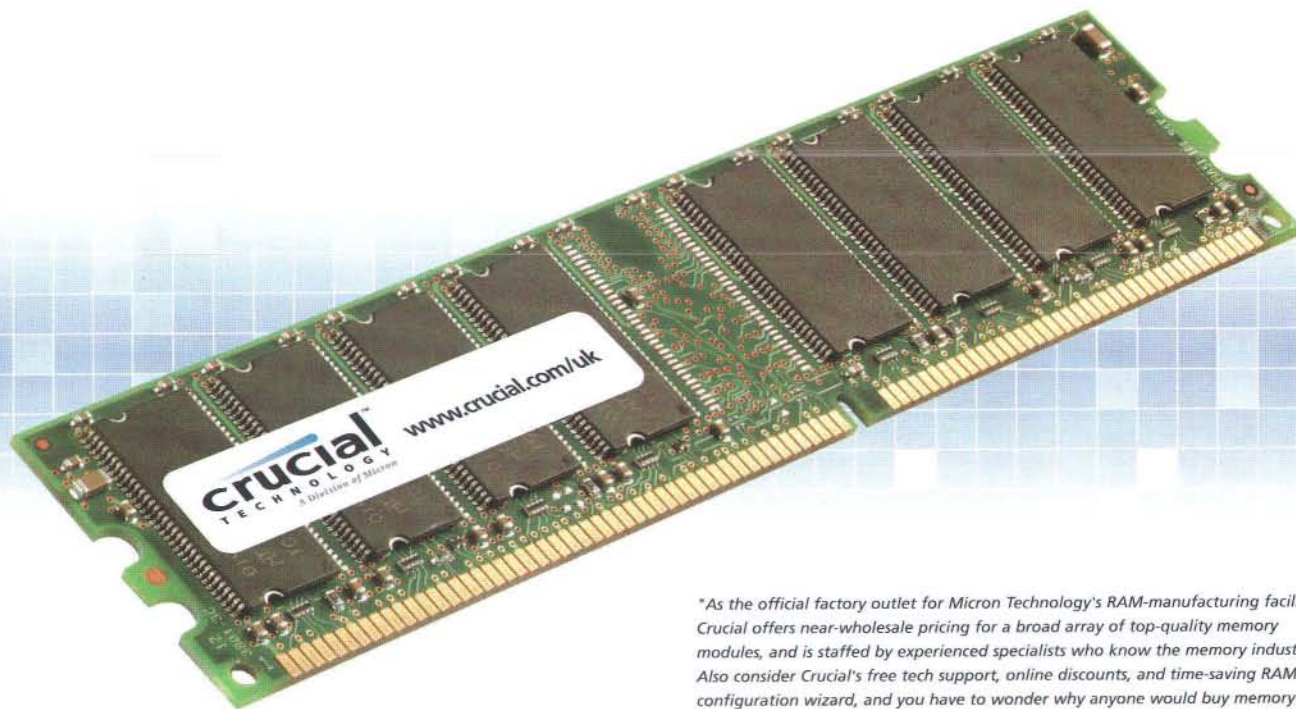
(Best results in **bold**)

Quake scores are in frames per second; all other scores are in minutes:seconds. All systems were configured with 512MB of RAM. We tested the G5 systems with Energy Saver's Processor Performance set to Highest. We set displays to 1,024-x-768-pixel resolution and 24-bit colour. For the Startup test, we started timing when we hit the power button and stopped when the desktop icons appeared on screen. We recorded the amount of time Entourage took to download 20 email messages with a mix of attachment sizes and types. We timed the export of a 51.2-second iMovie to QuickTime:Email. The Photoshop Suite test is a set of ten scripted tasks using a 50MB file. Photoshop's memory was set to 100 per cent, and History was set to Minimum. We tested Quake III at a resolution of 1,024-x-768 pixels, with Graphics set to High Quality. We recorded the time it took Microsoft Word X to find 17,448 instances of one word and replace it with another.

Macworld Lab testing by James Galbraith.



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— Computer Shopper magazine

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Prices may vary according to specific system requirements. The price listed was valid on 25/11/03 when we sent this ad to the publisher; however, prices may have dramatically increased or decreased since then. Visit the FAQ section of Crucial.com/uk to learn more about why memory prices go up and down.

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Quark customers 'now kings'



'With regards to InDesign, at the end of the day it's not about threat, it's about making sure we deliver the better product'
Quark director of product management, Jürgen Kurz

iPod Advent-ure

Ronan Keating launched Apple's iPod Advent campaign at Virgin's Oxford Street superstore. Using an iPod, the store will play continuous, unrepeatable tracks until Christmas Eve. The launch marks Virgin's deal with Apple to stock iPods (see page 34).

Keating said: "My iPod has become my travelling companion – it goes with me absolutely everywhere."



Ronan Keating with Apple UK general manager Mark Rogers.

At MacExpo 2003 Macworld met with Quark's director of product management Jürgen Kurz and newly appointed vice president of corporate development Susan Friedman to discuss QuarkXPress, InDesign, and the company's communication skills.

Quark has been deeply involved in product development in recent months. "We've really made sure the quality is there", said Kurz. "The publishing industry is showing signs of recovery, at least in some countries. I think the budget for the large customers will be freed-up again, and I think we'll see significant sales next year. Customers are budgeting to buy new equipment, rather than just talking about it."

XPress Vs InDesign

Adobe InDesign was dubbed the 'Quark-killer' when it was introduced, and although Kurz does not dismiss the competition it offers, he says it's all about "what the customer wants and feels comfortable with".

He said: "When you look at moving to OS X we feel the product we are offering doesn't provide any additional headaches – you install it, and it works."

"With regards to InDesign, at the end of the day it's not about threat,

it's about making sure we deliver the better product, by doing our best. That's all we can do, and we continue to deliver what we need to deliver. Some things we do well, and others we need to do better."

"We are investing in XPress to ensure customers will choose to stick with us. We are financially stable, and invest a lot in research and development."

"We definitely have more people working on XPress than Adobe has on InDesign. We have over 200 XPress developers. XPress is very important to us. It dear to our heart," he claimed.

Tomorrow's world

The arrival of electronic fonts, XPress, Macs and Photoshop revolutionized publishing in the 1980s, and Kurz says that instead of trying to create another revolution "what we need to do is distinguish between features that change the way people work, and those people think products like ours should already have".

Kurz cited multiple undo and tables-support in XPress as examples of "little improvements which are really big improvements when you work the application every day".

He added: "Then there's things that really change the way we do

things, such as Xpress 6.0's Layout Spaces. These allow designers to build projects with multiple layouts – business cards, letterheads, stationery, for example – and ensure consistent design across all the elements through using Workspaces. It means, for example, that if a logo is updated, it's updated across the different layouts automatically.

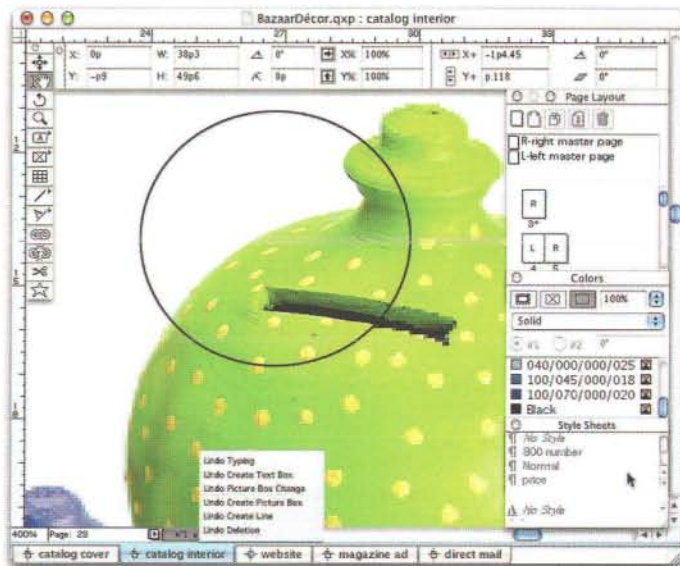
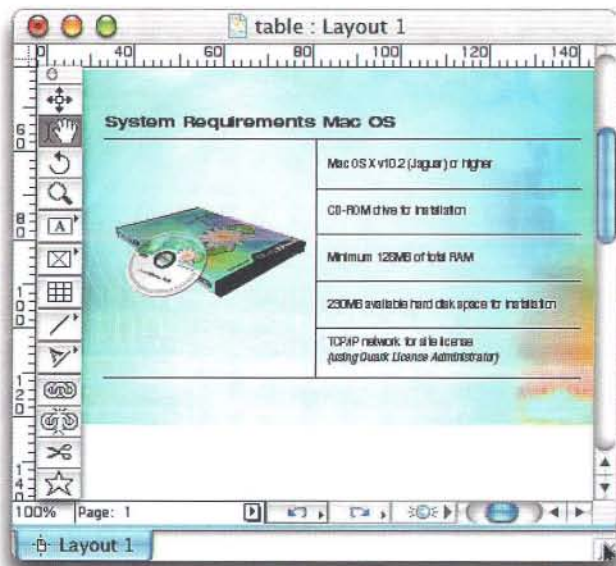
"I think that's a fantastic feature. No desktop product has such a feature. People think in projects, but even if you think in chaos what we have here is a way people can separate content from design. They can play with ideas without worrying about the content. They don't have to use copy-&-paste."

Today's publishing increasingly embraces PDF across the workflow. Kurz said: "We need to invest more in PDF publishing, and we need to have a very rich toolset for Web content management. Fundamentally, we always want to do things that fulfil our customers' needs."

Publishing should be fun, says Kurz: "We want to provide tools that let people be productive, but at the same time – because people spend eight hours a day in front of our application – allow it to be fun."

Mac calendar, 2003/04

December 15 The Power of Panther Hilton, Dublin. Free Apple seminar to showcase Mac OS X 10.3 Panther. www.apple.com/uk/series/panther/	January 15-18 NAMM 04 Anaheim, California, US The world's largest trade-only music-products show. www.thenammshow.com	February 10-12 VIZFX, Wembley, London 2D, 3D & animation applications. www.vizfx.co.uk	February 22-25 Focus on Imaging 2004 Birmingham NEC. Europe's biggest imaging show www.focus-on-imaging.co.uk
January 5-9 Macworld Expo Moscone Center, San Francisco. The world's most comprehensive Mac event. www.macworldexpo.com	February 2-5 Imagina 2004 Monaco, France Leading European event for the worldwide digital-entertainment industry.	February 10-12 VideoForum 2004 Wembley, London The UK's biggest technology showcase for production, new media, and streaming. www.videoforum.co.uk	February 24-26 Screen-Digital 2004 NEC Birmingham Screen and digital printing. www.screen-digital.co.uk
January 7-10 BETT 2004 Olympia, London ICT-in-education event (see preview pages 30-31). www.bettshow.co.uk	February 9-12 O'Reilly Emerging Technology, Westin Horizon Plaza, San Diego. A look at mobility and social software. http://conferences.oreillynet.com/etcon	February 10-12 Sounds Expo Wembley. Event aimed at musicians, producers and sound engineers. www.sounds-expo.co.uk	March 18-24 CeBit, Hanover, Germany The world's top IT event. www.cebit.de
			March 30-April 1 Digital Expo, NEC. Digital print and services. www.digitalexp.co.uk



Feature presentations

Quark's aim, says Jurgen Kurz, is always to provide users with the features they want and need – such as Table tools (left) and Layout Spaces.

Upgrades

Quark gained notoriety among Mac users for its tardy delivery of XPress for OS X, but QuarkXPress 6.0 has been very well received, said Kurz: "Xpress 6.0 has been the most successful, fastest-selling upgrade in terms of unit sales ever. Although larger clients tend to upgrade more slowly there are so many smaller customers who have already upgraded it's fantastic. OS X is definitely happening."

Quark's critics have complained of the infrequency of its product updates – something Kurz said will change: "We are aiming to update every 14-18 months. Moving to more-frequent product revisions offers Quark an advantage, as it makes us more competitive. We can introduce new features that our users need, things like support for new PDF specs."

Kurz added: "For the last year it's all been about where XPress for X is. But now it's here, and I think its time we invested not just in engineering but also in communication."

User relations

With regards to communication, Quark wants to get closer to its users. Kurz said: "We take that criticism and we agree with it. We need to improve. We recognize a distance has been there, and we have begun investing to bridge that gap."

Friedman said: "We tend to put all our force and passion into making the products the best they can be. We have not been the best at

communication, and we need to do better."

UK XPress users can expect the company to put people in place here "to speak directly to the customers", Kurz and Friedman promised. The company is preparing plans for roadshows next year, in order to meet customers. To this end, Kurz travelled from the US to be at MacExpo. "We never want to leave the UK market," Kurz said. "When we reduced our presence in the UK last year it was not an abandonment of the UK but was in response to the economic reality then. Now we are building for another age."

This new age involves a more customer-focused Quark, says Friedman – a 13-year Quark veteran: "Our customers can do a lot better if we help them work more efficiently."

Friedman's new role is to fill the gaps that have evolved between Quark and its customers over the years. She said: "We have to communicate with our customers and partners better, and the service bureaus and printers. We have to deliver better training, too. It's a big job, but we did it well when I first came to Quark, and will do it well again."

Quark competitors Macromedia and Adobe have successfully developed well-used customer forums where users swap hints, shortcuts and solve problems. Quark doesn't yet offer that depth of community.

Friedman said: "We must do better there. We must improve across

the board. We must improve our communications, offer better hints, tips and training and get user-communities back."

Jobs and Ebrahimi

In November 2002 Quark CEO Fred Ebrahimi declared Apple would "become a consumer electronics company", and Quark's lack of an OS X version of XPress at the time led many industry watchers to predict that the company was planning to end its DTP relationship with the Mac community.

Kurz said Ebrahimi "was expressing his concerns that Apple's move to OS X was forcing pro-publishers to upgrade in a tough economy". He added: "We are completely committed to Apple, as 50 per cent of the company's sales are Mac. We even launched XPress 6.0 in Cupertino together. We have people sitting in Cupertino working with Apple on fixing bugs in XPress 6.1 for Panther. We work together closely, not just in marketing or in business terms, but also from a development perspective."

Apple's move to a rock-solid implementation of Unix may ultimately widen Quark's presence on Macs, Kurz suggested: "OS X's Unix core is most interesting, as we also have server-led products that allow users to run XPress in a multi-threaded environment on a server. That's when it becomes very powerful."

Jonny Evans

Quark planning UK user-events

Quark has a few more surprises in store, said Friedman: "We are doing a lot with Apple. Both companies are part of the Driven by Design show in the US. These seminars offer design professionals in the US a hands-on chance to use tomorrow's publishing solutions, and we are going to do this in the UK in the first quarter, she said.

"We are also going to bring back XPress user-conferences, which were always useful."

Quark is applying the final touches to XPress 6.1, a free update for registered users, and that is due for release in mid-December.

Kurz said: "It's optimized for Panther. In some instances XPress will run 30-50 per cent faster on a G5 and Panther. That's the way Apple and Quark are working."

■ There are four million registered QuarkXPress users worldwide





New G5 dual in crown



Mac discounts

Apple is offering customers a £200 discount when they buy a new Mac with Final Cut Pro 4 and DVD Studio Pro 2. Also, those who already own a new Mac can save £100 when they buy the two applications together. The deals are available worldwide until February 28, 2004. For more information got to www.apple.com/uk/promo/prosavings.

Apple has introduced a second dual-processor 1.8GHz Power Mac G5, and cut the price of its entry-level 1.6GHz model by £150. The move reflects better-than-expected sales of the dual-processor 2GHz G5.

Apple vice president of hardware product marketing Greg Joswiak said: "Our customers told us loud and clear that they love dual-processors, and so now two of the three Power

Mac G5 models feature them."

The new model offers dual-1.8GHz PowerPC processors, each with an independent 900MHz frontside bus that Apple claims "provides for more than 14GBps of bandwidth for fast throughput to main memory". The previously available single-processor 1.8GHz model has been withdrawn.

The Power Mac G5 range now includes three models: dual-processor 2GHz (£2,299) and 1.8 GHz machines (£1,899), and a single-processor 1.6GHz model for just £1,399. Prices for Apple's 64-bit personal computer include VAT.

Joswiak said: "The Power Mac G5 line-up is more affordable than ever."

The Power Mac G5 1.8GHz dual-processor machine ships with 512MB of 400MHz 128-bit DDR SDRAM. Users can install up to a massive 8GB of memory on this machine. It also features a 160GB Serial ATA 7,200RPM hard-disk drive and an AGP 8x Pro graphics slot with an Nvidia GeForce FX 5200 Ultra video card with 64MB DDR SDRAM. The internal expansion capability is rounded off by three 64-bit PCI-X slots – one of which operates at 133MHz, while the other two are clocked at 100MHz. The system features a 4x SuperDrive that can

burn both DVD-R and CD-RW media.

Connectivity options include one FireWire 800 and two FireWire 400 ports, along with three USB 2.0 ports. Gigabit Ethernet, optical digital audio and analogue audio I/O are also built-in. Apple has focused on performance here, too, offering I/O throughput of 3.2GB per second.

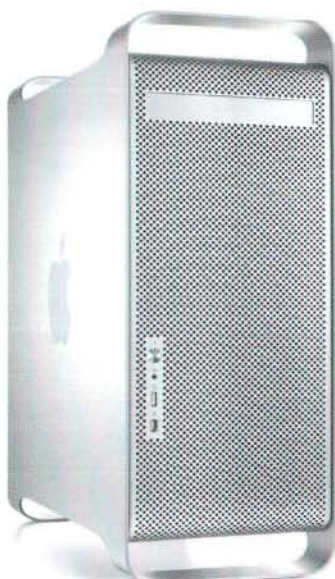
The software bundle includes: Mac OS X 10.3 (Panther), iLife (including iTunes, iPhoto, iMovie and iDVD), FAXstf, Art Directors Toolkit, FileMaker Pro Trial, OmniGraffle, OmniOutliner, GraphicConverter and Apple Developer Tools.

"With its focus on speed, performance and affordable 64-bit desktop power, Apple's new professional Macs are attracting attention from Unix and Linux users, as well as educational, scientific and research institutions," said Joswiak speaking at MacExpo.

He added: "We are seeing signs that confidence is returning to the advertising markets, meaning publishing professionals seem more willing to upgrade."

"The debut of QuarkXPress for OS X, Mac OS X 10.3 and the Power Mac G5 means Apple now offers a compelling reason for users to upgrade."

MW



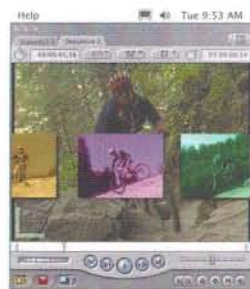
Pro video-apps updated for G5

Apple has optimized its suite of professional video applications for Power Mac G5s. Final Cut Pro 4.1, Shake 3.0.1 and DVD Studio Pro 2.0.2 – along with Compressor 1.1 – are available both from the Apple Web site, and via Mac OS X's Software Update.

FCP 4.1 offers support for the simultaneous playback of seven fully uncompressed standard definition (SD) video streams with real-time effects using a dual-2GHz processor Power Mac G5 and Xserve RAID. Achieving this kind of power once required external equipment. The G5 allows FCP to deliver five digital-video streams in safe mode, again with no extra software. A leading benefit for editors is that video rendering is now twice as fast on a G5 than the 32-bit processors of G4 Power Macs.

Apple's vice president of applications marketing Rob Schoeben said of the updates: "The results are unprecedented for both real-time and rendering performance, and all this is available at a fraction of the cost of systems requiring dedicated hardware."

Sven Krong, co-founder and president of video company Click Media, agrees: "We now have the horsepower to deliver stunning results to clients in a fraction of the time it used to take and all at a cost we can afford."



A cut above Final Cut Pro 4.1 utilizes the G5's processing power.



DVD Studio Pro 2.0.2 and Compressor 1.1 speed-up the job of encoding projects from Final Cut Pro 4.1 to broadcast-quality MPEG-2. High-volume, repetitive encoding tasks are "up to 55 per cent faster" on a G5 in contrast to G4s, Apple said.

The Shake 3.0.1 update offers rendering-speed increases of up to 45 per cent on a Power Mac G5.

MW



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Store

Your account

Current Order

Saved Orders

Order Status

Help

Apple Store comes clean

■ A Macworld Online poll showed that 29 per cent of readers have had problems using the UK Apple Store. A total of 9 per cent who responded said they won't use the service again.

Apple has rolled out a new logistics system across its European online Apple Store, and has exclusively told Macworld that its roll-out has caused serious problems for customers, with 39 per cent of them facing delays when problems were at their worst.

Apple Store Europe director Francois Duquesne said: "The crisis is now under control. We have fixed the broken parts, and we have the capacity to respond".

The problems were first unearthed by a Macworld Online reader poll, in which 27 per cent of readers said they had experienced problems with the Store, with many complaining of delays and shipping problems.

Duquesne said: "It certainly has been painful. Customers have not been receiving products in the timeframe we said they should. We've seen the issue gradually escalate, and become a flood in the past six to eight weeks."

Apple
Europe PR
manager
Alan Hely

said the company values such input: "Apple welcomes feedback from customers. We take customer feedback very seriously, and receiving it directly allows us to address it."

He pointed to the built-in bug-reporting features of Safari and Mac OS X 10.3 as evidence of the company's desire to attract customer feedback.

Following the poll, Apple sent an email to Apple Store customers admitting the company was facing "several implementation issues" with the store. It promised that it "is taking all the necessary steps to restore service levels as quickly as possible".

Duquesne added: "The problems were a result of a logistics upgrade to our ordering system introduced in July. It was implemented at the same time as Apple Store business exploded. In the past year the Store has seen very strong growth. We have introduced products like iPods and Panther, that have been huge successes. These low-cost items are being ordered in large quantities.

"In the past six weeks we have been working with Apple Europe's

senior director of logistics Joe Gantley to address the problems. He has been working with our partners to increase warehouse capacity."

Other measures include hiring new planning and logistical staff and bolstering the call-centre team.

Duquesne said: "We have been deluged with so many calls and emails that we hadn't been able to answer them in a timely manner, meaning customers faced long waits when they called to report problems.

"We have put more people on the phones — some permanent; some temporary — to deal with the crisis. We expect that as logistical problems are solved service levels on the phone and on email will return to normal. We also have a dedicated urgent-response team."

Many readers complained the Store was not meeting promised delivery times. One UK-based reader revealed that the iPod he ordered through the Apple Store was still in the wrong country: "My wife ordered an iPod — it arrived at Apple's warehouse in Holland on November 7, and is still there. They do not know when it will be shipped. I have been given three different delivery dates, all of which have passed."

As Macworld went to press Apple was preparing to announce the last possible date that customers can place orders for Christmas. "We will be conservative with this date," Duquesne said. **MW**

■ Aggrieved customers should contact Apple on 0800 039 1010. Karen Haslam



Pub tunes go digital

The sight of the traditional juke box (left) could soon be a thing of the past, as thousands of UK pubs will soon be introducing broadband-enabled jukeboxes with access to millions of tracks.

Inspired Broadcast Networks' player offers paying punters access to an online database of two million songs through a system of 6,000 broadband-connected jukeboxes.

The company claims the service will also offer pre-released tracks, predicting that 300 new tracks will be added each day.

"For a modern consumer accustomed to instant access to millions of the latest tracks from MTV, Napster and the iPod, the traditional juke's combination of terrible compilations and lack of new music does not compare. This has

resulted in declining juke incomes, and pub retailers scrapping in excess of 1,000 jukeboxes a year across the UK," the company said.

It intends rolling-out the system across the UK in 2004, with some test jukeboxes deployed at undisclosed locations in the run-up to Christmas, "and not necessarily in London".

Tracks will cost 50p, though drinkers in a hurry can pay £1 to ensure their music choice plays first.

The system is being introduced in partnership with Entertainment UK, itself part of high-street giant Woolworths. As they listen to music, drinkers will be able to order a physical CD of the album be sent to their home. The companies hope to offer the option of MP3 emailing, starting next year. **MW**



1984: 20 years on

Twenty years ago Apple stunned the US Super Bowl TV audience with its now world-famous "1984" ad, featuring an athletic heroine (British discus thrower Anya Major) who broke the new world order with a hammer as a fitting visual message to support the introduction of Apple's brand-new Macintosh computer.

The award-winning advert was a huge success for the company, and for many still sums up what Apple is about. But when first screened before the Apple board of directors, the movie met a stunned silence, according to then-CEO John Sculley. "Two board members put their heads in their hands and said, 'You're not really going to run that, are you?'"

The board complained that the \$700,000 ad – which cost a further \$1.5 million to screen during the Super Bowl – never once showed the product. "They said it would be irresponsible to spend all that money on an ad that didn't show the Mac," said Lee Clow, TBWA/Chiat/Day's creative director.

Directed by then up-and-coming British director Ridley Scott, "1984" offered high-quality cinematics. Filmed at Shepperton Studios, Scott recruited hundreds of extras willing to shave their hair for \$125 per day. James Biddlecombe, who starred as one of the Big Brother-watching audience, told Macworld that the casting agency actually hired a bunch of skinheads as extras.

"We wanted to get people's attention," said Steve Hayden, a copywriter for the ad.

"I was fascinated to see the reaction of other people," said ad analyst Bob Garfield, who instantly liked the commercial. "It was clear that the literal message was not apparent to them, but they certainly felt the emotional impact."

However, the board asked Sculley to sell-back the Super Bowl advertising time – one 60- and one 30-second pitch. Defiant, Chiat/Day only sold the shorter slot, so the 60-second ad screened after all. It worked. Within hours, Apple's switchboard was jammed by curious callers, newspapers, magazines and all



three US TV networks and 50 local stations carried news items about the ad – it was a PR coup.

Clow described negative reactions from competing advertising firms to the ad as "horseshit from people who didn't have the balls to produce something like 1984".

It was the beginning of a brand philosophy that Apple still retains, Garfield said. "It broke all the rules; and the reaction has been unprecedented," said Hayden.

So Big Brother, the villain from Apple's "1984" Mac ad, represented IBM, right? According to the ad's creators, that's not exactly the case. The original concept was to show the fight for the control of computer technology as a struggle of the few against the many, says Clow. Apple wanted the Mac to symbolize empowerment, with the ad showcasing the Mac as a tool for combating conformity and asserting originality.

And don't let Big Brother's glasses fool you into thinking he represents Bill Gates, because back in 1984, Gates was just a humble software tycoon tinkering with MS-DOS (and two years away from making his first billion).

Adelia Cellini, with thanks to Owen Linzmayer's forthcoming *Apple Confidential 2.0* for additional research. **MW**

WHERE ARE THEY NOW?



APPLE

Steve Jobs

THEN: Co-founder and chairman, Apple.

NOW: CEO, Apple and Pixar.



John Sculley

THEN: President and CEO, Apple.

NOW: Partner, Sculley Brothers LLC (an investment firm).



CHIAT/DAY

Lee Clow

THEN: Creative Director, Chiat/Day.

NOW: Creative Director, TBWA/Chiat/Day; followed-up "1984" with memorable ad campaigns such as the Energizer Bunny and Taco Bell's talking Chihuahua.



Steve Hayden

THEN: Copywriter, Chiat/Day.

NOW: Vice-Chairman, Ogilvy & Mather.



THE COMMERCIAL

Ridley Scott

THEN: Director of *Alien*, *Blade Runner*, *Gladiator*, and Apple's "1984" commercial.

NOW: Three-time Academy Award nominee for Best Director.



Anya Major

THEN: A model whose experience as a discus thrower won her the part.

NOW: Like the image she smashed, Ms Major has faded from view; our efforts to track her down were unsuccessful.

Ever noticed this?

Starting up in Classic is always a drag – it takes forever on anything but a G5, and it means staring at the Platinum UI, on top of jerky QuarkXPress redraws and horrible crashes. So thanks Apple for making the whole process that little bit more enjoyable in OS X Panther. As Classic starts up, the Dock's 9 icon slowly fills with orange.





Plug is pulled on LiveMotion

Adobe has ended development and distribution of LiveMotion, its tool for building dynamic interactive Web content in Flash and QuickTime.

A note on the company's Web site confirms the decision, which was announced to existing registered customers on November 15.

It reads: "Adobe will no longer distribute LiveMotion 2.0. Adobe has decided to concentrate its efforts in other areas, but we want to thank our loyal LiveMotion customers for their support."

The company intends to maintain direct technical support for the product until March 31, 2004. LiveMotion support within the Adobe Support Knowledgebase and User-to-User Forums on the Adobe Web site will be available "until further notice".

Raw deal

Raw 1.0 lets Mac users record Internet audio to MPEG-4's AAC

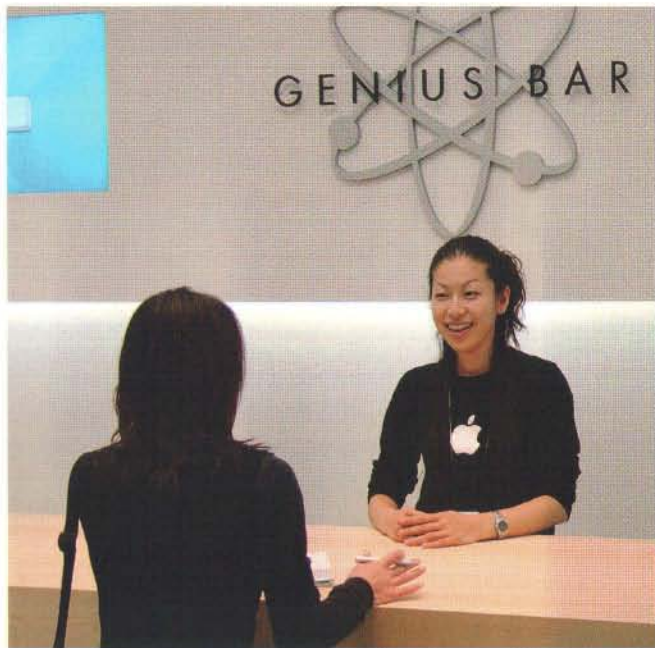
format. It will record simultaneous multiple audio streams, soundtracks and webcasts, and the files

are iPod-compatible. The product offers AppleScript support, and supports RealAudio, Flash and QuickTime. The full version costs \$20.

www.bitcartel.com



■ UK small firms can claim total tax relief on IT equipment from January 2004.



Apple's Tokyo storey

Apple's first retail store outside of the US – in Tokyo's Ginza shopping district – is open for business. The company will open a second store in Japan, in the country's second-largest city, Osaka, in the second half of next year.

The five-floor Tokyo store includes dedicated Solution Centers for music, movies and photography; a Genius Bar, an 84-seat theatre for workshops, demonstrations and other events, an Internet café, and a Kids section with educational software and games.

Apple CEO Steve Jobs told a press conference in Japan: "Apple's market-share in Japan used to be higher than it is today, and we want people to

know Apple is back in a serious way and investing in Japan."

The company's senior vice president of retail Ron Johnson said: "Over the past two years, Apple has redefined computer retailing for Mac and PC users in the US, and now it's bringing the best personal-computer buying experience to one of the greatest shopping destinations in the world – the Ginza in Tokyo."

Johnson added: "New York's Fifth Avenue, the Champs Elysées in Paris, and Regent Street in London are all great, but there is nothing like Ginza."

Apple's new outlet rubs shoulders with world-famous retailers, including Louis Vuitton, Hermès and Gucci.

Apple is employing 140 people at its Tokyo store, and says that between them ten languages will be spoken: Japanese, English, Mandarin, Cantonese, Korean, Thai, Italian, Spanish, French and Portuguese.

Apple's 70 retail stores in the US have hosted more than 24 million visitors since the first Apple retail store opened in May 2001.

In a recent analyst meeting Ron Johnson said: "In our stores last year we had 14 million visitors, equivalent to 175 Macworld Expos."

Johnson refused to comment on plans for other retail outlets in Asia and beyond.

MW
Words and pictures: Martyn Williams

Blackberry picking

Research In Motion (RIM) has released the BlackBerry wireless email device. RIM will offer the triband BlackBerry 7730 Wireless Handheld in the UK before deciding if it will make it available elsewhere in Europe.

The 7730 offers phone, email, SMS (Short Message Service), browser and organizer features, and has a 2.9-inch colour screen.

Pricing for the 7730 is subject to negotiation between O2 and its customers, but the company is offering the device for £289 for orders of over 500 devices.

For orders between one and 19 units, the price is £329. Monthly subscription rates will cost £56 at most, the company revealed.

RIM is currently negotiating with other carriers to provide services for the BlackBerry 7730.



Still making do
with the
same old
model?



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Digital video a sure BETT in 04



Apple gong-ho

Apple's iPod and 17-inch PowerBook G4 have been nominated for BETT awards. Results will be announced on January 7. Apple has won BETT awards for the past three years – for iMac, iDVD, iBook and AirPort.

Tech for poor

The e-Learning Foundation is using BETT 2004 to help it raise £1 million to give disadvantaged UK areas access to technology. "Without computer access at home many children from deprived areas are being denied the chance to develop the knowledge they need to progress in an increasingly digital world," the charity said.

Find out more from www.e-learningfoundation.com

Learning Curve

The UK's National Archive is exhibiting for the first time at BETT this year, to promote its Learning Curve Web site.

This site is a teaching resource that supports the UK's National Curriculum, and offers plenty of information teachers can use in class. It offers online exhibitions and interactive investigations, based on information held in the Archive's 1,000-year-old collection. A new Empire exhibition will launch at the show.

<http://learningcurve.pro.gov.uk>

The growing importance of digital technologies as learning tools in UK schools is confirmed by the line-up and programme of BETT 2004 – the UK's biggest annual ICT-in-education show.

The event takes place at London's Olympia from January 7-10. Now in its 21st year, BETT is expected to attract 500 exhibitors, including Apple, which traditionally uses the event to offer an early taste of what it was announced at Macworld Expo San Francisco, which this year opens on January 6.

BETT 2004 will reflect the expanding role of digital technologies in the curriculum. Typical of the mass of research proving technology's worth to pupils was a recent report from Knowsley Council, which showed that students with access to an online exams-practice Web site achieved five points better in their GCSE grades.

Apple is looking to build on its estimated 3-5 per cent share of the UK education market. At the show this year, the company has joined forces with Canon, Film Education and Ultralab to invite invite groups of students to record live video footage at the show, edit it using Macs and iMovie, and broadcast the results on monitors set-up around the show.

The experiment is designed to turn schoolchildren into TV

presenters, interviewers, video editors – and all to tight deadlines. Teachers will also be able to sign-up for free half-hour video-production training sessions at the 'BETT Goes to the Movies' stand.

Reeza Awoodun, marketing manager of UK education ICT supplier Tag Learning, said: "Video is emerging as this year's hot potato. All the advisors are evangelizing its use, and there's a lot of encouragement being aimed at schools to help them adopt it in the classroom."

Kudlian Software director Roger Young told Macworld: "Apple has done a good job convincing people that Macs are the best platform for digital video but in terms of being a platform for digital video, but Windows PCs are catching up. Industry observers say education advisors can be blinkered, and will go with what they know – to the detriment of the learning environment in some cases.



"Because of its complexity video is more attractive to secondary rather than primary education. Primary schools will look to what they already have.

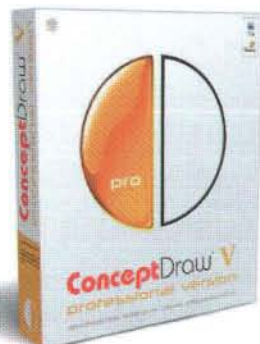
"Schools find it difficult to accommodate desktop computers in already overcrowded classrooms, so are buying more laptops and consider wireless connectivity as a viable option."

One industry insiders said: "School ICT co-ordinators are ICT curriculum specialists, not necessarily technical specialists. BETT should be seen as an opportunity for those people to look at what is innovative, what is available and how it may be integrated into the curriculum.

ConceptDraw shapes up

CS Odessa presented ConceptDraw 5 at MacExpo – "a comprehensive redevelopment of our existing product", said marketing director Vera Zvereva. The award-winning technical diagramming and flowcharting application is used by NASA scientists.

New in this release is ConceptDraw Basic, a built-in scripting language that developers can use to create customized visualizations based on the application's drawing engine.



The product ships with hundreds of libraries containing ready-to-use shapes for engineering, science, education and business-related tasks. These can be scripted to intelligently reflect parameter changes.

ConceptDraw 5 has customizable toolbars, floating dialog boxes, and anti-aliasing. The new version

has been rebuilt to make it less processor- and memory-hungry, CS Odessa says. It also adds support for XML, meaning users can import drawings from other applications, can access ODBC-compliant databases and visualize their data graphically. Password protection and auto-save are other new features.

Zvereva told Macworld: "I've never worked with a development company like this one. It took a lot of work to convince them to meet scheduled release times for the product, as they are always identifying and then implementing new features for ConceptDraw."

ConceptDraw 5 is available in Standard and Professional versions. Standard costs £99, and Professional version is £249.99. Prices exclude VAT. Educational discounts are available.

The company also showed ConceptDraw MindMap (\$179; UK price unavailable), a tool aimed at project managers, business specialists and educators who need to outline projects, and plan activities.



at annual schools ICT show



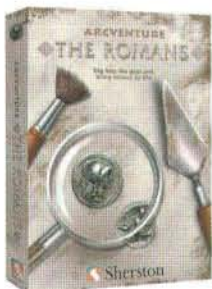
Good show

BETT 2003 attracted over 24,000 visitors

Third party Mac-friendly education-focused suppliers will also be at the show.

TAG Learning will exhibit products including MediaBlender, its virtual-reality creation tool SimplyVR, and

Visual Thesaurus – a new product



Dig it

Sherston's archaeological title for OS X is *Arcventure: The Romans*

that makes finding words fun.

The company is also showing its Mac-friendly education admin tool, MAPS.

Education supplier **Softase** will launch new foreign-language packs, and will introduce Tizzy's First Tools, which offers seven ICT tools from Sherston and Softase for pupils aged between 4-7.

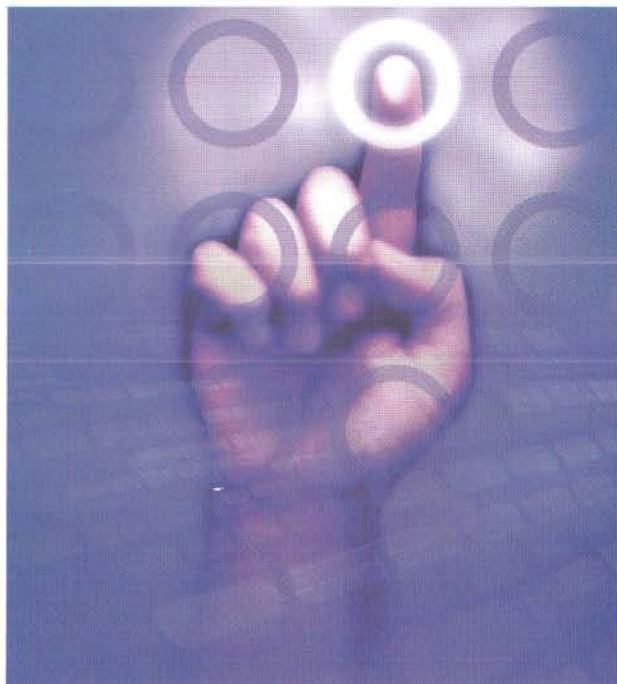
Sherston will also present *Arcventure: The Romans*, for OS X – a simulation that puts pupils through an archaeological dig, and offers a virtual tour around a Roman villa.

Kudlian will appear at BETT to present new versions of Kudlian Suite 1 and 2, Terry the Turtle 2 and a Mac OS X version of Ask Oscar. Terry the Turtle 2 will be available in both English and Welsh, reflecting Welsh curriculum needs.

Digital Worlds will demonstrate a Mac version of its Digital Worlds geographical information system (GIS). The product focuses on the geography and history of a student's local area. Each school or college is provided with census data, historical and current maps and aerial photographs in the package.

A new online resource for teachers will also appear at BETT, in the shape of **Oxford University Press's** Oxford Scholarship Online. This paid-for site is comprised of 700 humanities and social sciences texts, with 200 titles being added each month. Visit www.oxfordscholarship.com for more details.

Lego is launching an Internet-based teaching and programming tool called Lego Mindstorms for Schools, a powerful robotics-teaching tool. It allows teachers to plan



Index linked

'The power of learning at your fingertips' – BETT's marketing image and logo.

lessons, and teaches pupils how to program virtual Lego Mindstorm models online. Lego research shows that its software encourages more students to take the Systems and Control option at GCSE level, while making the ICT curriculum easier for teachers to tackle.

To pre-register for a free ticket to the show, and to receive the latest show information and news, visit www.bettshow.co.uk, or call the visitor hotline on 0870 429 4574. **MW**
Jonny Evans

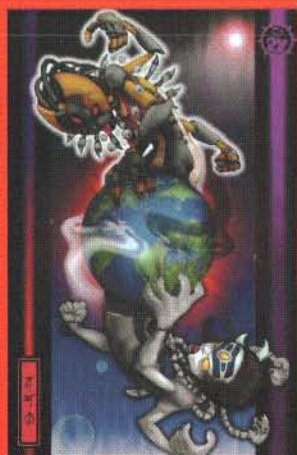
Board roam

Smart technology is introducing its Mac-compatible digital whiteboard at BETT 2004.

The SmartBoard 2000i offers a 68-inch, shadow-free, touch-sensitive display. The board integrates a video projector, and has been developed so teachers can access a variety of digital content – including information held online or on CD – using the whiteboard's special pen and interactive display. The SmartBoard 2000i costs educators £5,995.

Just 14 per cent of youngsters from low-income homes go to university, against 75 per cent from more-advantaged homes, government figures show.

Mac-chester media frenzy

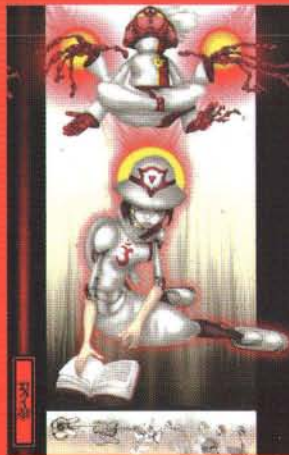


Arts collective Spearfish is staging a mixed-media event in Manchester using Macs in the run-up to Christmas.

The event, called Digital Space will see artists **Sumit Sarkar** and **Simon Pantlin** creating a series of digital artworks using Wacom tablets and Adobe Creative Suite products, these will be projected onto huge screens that will fill the building's windows.

Sponsors **Glenfiddich** and **Wacom** are inviting 800 guests over four nights to sample their wares, and **Adobe** and **Epson** are also helping stage the event.

An art auction will be held on the last day, with unique artwork for sale. Manchester's Woodstreet Mission Charity will receive 30 per cent of all money raised. For more details go to www.spearfishltd.co.uk **MW**





Sims to wave magic wand?

Aspyr appear to be working on yet another expansion set for The Sims – called The Sims: Makin Magic. This expansion pack shipped for US Windows users on October 28, and has now appeared on Aspyr's press information Web site. While the company has offered no details regarding the Mac port, original author Maxis has described Makin Magic as "the last Sims expansions set".

The pack requires a registered version of The Sims be installed and allows Sims characters to use supernatural powers to cast both playful and mischievous spells. Sims fans who have spent time building up vast collections of garden gnomes can make them water the garden, for example.

Makin Magic offers 175 new items, and a host of new characters. The PC version the largest Sims expansion pack to ship so far.

To use magic, Sims gather ingredients and concoct potions to make spells. They can create minions – such as a Skeleton Maid who cleans house – and turn neighbours into toads, or can add a dose of Love Potion to make an unapproachable character fall in love with them. But like everything in the Sims universe, spells can backfire; a clumsily cast spell can result in

bolts of lightning hailing down upon the hapless Sim, for example.

The game also offers a new carnival-like location, where players can take their charges through side shows, magic duelling, a variety of carnival rides, and even build a magical dream house to make their home in Magic Town.

New items include a baker's oven, spinning wheel and butter churn – and cryptozoologist Sims can even hatch and nurture a Pet Dragon who will eat everything from garbage to small creatures.

Aspyr has not yet announced price or shipment dates for the new product.

■ Simodifier 2.1 from Lake Group Software (www.lakegroupsoftware.com) is the newest version of the character-editing utility for The Sims.

The software (pictured right) can change aspects of Sim behaviours, including personality traits, family money, skills, interests, career paths and career levels. This tool also allows alteration of adult, child and pet Sim relationship values. Registered users can use the product's Behavior Lab feature, which lets them alter Sims behaviours for comic effects. This means adult Sims can be hacked so they begin drinking from the toilet cistern – or Sim pets characters. Sims Pets, meanwhile,



The \$10 software runs on both OS 9 and OS X, and supports Mac Sims expansion packs up to and including Superstars. There's a demo on this month's cover CD. **MW**

On the CD

Fresh from Sloppydisk Software comes Tetris-style arcade game, Descender.

Features include single-player puzzle-solving alongside a two-player battle mode. It runs in both OS X and OS 9, and costs \$12 online. www.sloppydisk.com



Feral's game of one half

There is a half-season demo-version of Feral Interactive's forthcoming Championship Manager 2003/2004 game on this month's CD. Feral has also announced a pair of games compendiums that ship in the UK soon.

Championship Manager 2003/2004 offers four new leagues, a pre-game database editor, the ability to view previously saved matches and updated player, team and competition data. It offers 43 country leagues that are playable across 100 divisions.

It also offers a database of 200,000 footballers from around the world, and extensive statistical information, including training, weather simulations, live cup draws, player relationships and improved scouting reports. The full version of the game will be available this month, and will cost £30.

Feral also announced two games compendiums at MacExpo 2003 – Family Fun Pack and Big Metal Box collections.

The Family Fun Pack consists of Sim Theme Park, Worms Blast, and Zombini's Island Odyssey. Feral's Big Metal Box offers Max Payne, Black and White, F1 Championship Season, and Oni. Pricing is not yet announced.

The Family Fun Pack runs on all 266MHz iMacs, while Big Metal Box will run on any Mac with a 400MHz processor and a 16MB graphics card.

■ UK developer Virtual Programming is offering three new games-bundles at discount prices until Christmas. On offer is Europa Universalis II and Hearts of Iron for



£39.95, KickOff 2002, and Player Manager 2003 bundle for £24.95, and WipeOut 2097 and Payback for £24.95. **MW**

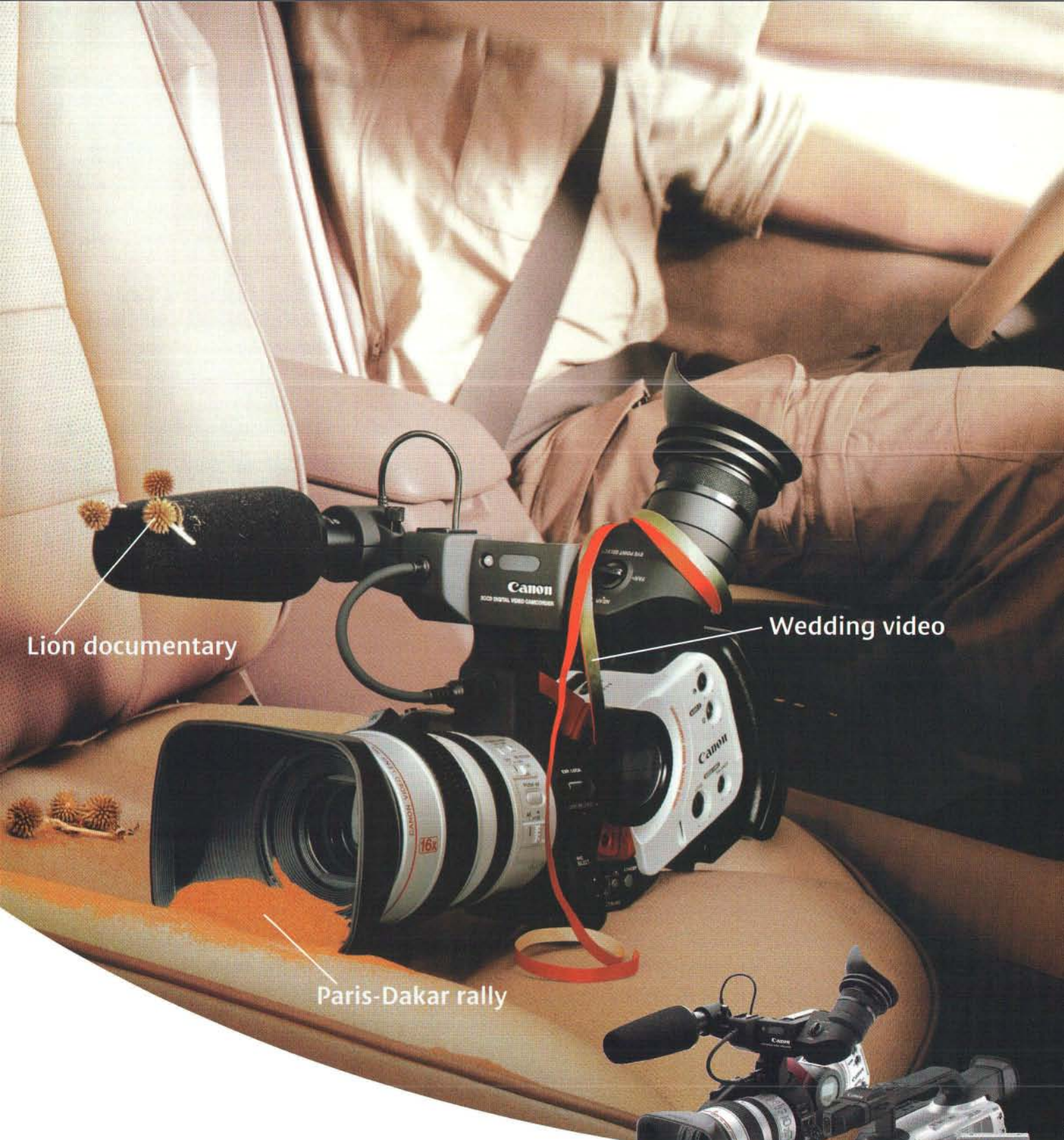
Top ten Mac games



1. Age of Mythology
2. Sims Superstar
3. GhostMaster
4. Finding Nemo
5. Star Trek Elite Force 2
6. Wolverine's Revenge
7. No One Lives Forever 2
8. Kelly Slater Pro Surfer
9. Family 4 Fun Pack
10. Big Metal Box

Source: Softline





Lion documentary

Wedding video

Paris-Dakar rally

Whether filming the majesty of lions or the joy of a wedding, using the XL1s or XM2 from Canon will give highly professional results. Both are flexible, with manual and automatic settings. Both are versatile, with a wide range of accessories (including XL lenses, light and sound equipment). And both can transfer footage for editing or broadcasting in a variety of ways. In short, you're ready for anything.

XL1s

- ▶ 1/3" 3CCD with Pixel Shift Technology
- ▶ XL interchangeable lens system
- ▶ Super Range Optical Image Stabiliser
- ▶ 5 programmed exposure modes
- ▶ Extensive manual control options
- ▶ 4 channel independent audio input XLR terminal (with optional microphone adaptor)

XM2

- ▶ Highly sensitive 3CCD unit with Pixel Shift Technology
- ▶ Canon Professional L-Series fluorite lens
- ▶ 20x Optical zoom with Optical Image Stabiliser
- ▶ Direction-accurate microphone with 3 frequency modes
- ▶ L-R Manual Audio Level Control
- ▶ Manual Picture Adjustment with custom preset



www.canon.co.uk

you can
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Business briefs

- The trademark dispute trial between Lindows and Microsoft has been delayed until March 1 2004.
- Systems Support has launched a new specialist company – Velocity DV – in reaction to the expanding digital-video and -audio market.
- Compu b has unveiled MacEstimator – an online quotation tool that provides a trade-in price for old Macs.
- The US Senate has approved landmark anti-spam legislation that could mean \$6 million fines or five-year jail terms for junk-email offenders.
- Corel has named current CEO Derek Burney as chairman of the company.
- Adobe has acquired Extensible Markup Language developer Yellow Dragon Software in a move to strengthen its XML architecture.
- Toshiba is doubling production of its 1.8-inch hard drives – used in the iPod – to 600,000 units a month by March 2004.
- The worldwide IT economy will rebound strongly by 2006 as businesses focus on driving growth, according to Gartner CEO Michael Fleischer
- Sharman Networks, distributor of the Kazaa Media Desktop peer-to-peer, software has launched \$1 million advertising campaign to mobilize its 60 million users to pressurize the entertainment industry to agree to licensing deals with Sharman.
- BT has promised that, if the demand is there, then every UK home will have access to high-speed Internet services by 2005.
- Demand for Bluetooth chips has been exceeding supply by 30 per cent since the end of the third quarter, and demand will not abate before the end of the year, DigiTimes says.

Apple 'scoring on music'

Apple UK general manager Mark Rogers is bullish about the long-term outlook for Apple in the digital-music market.

"Many interesting things are going to happen in the whole digital-media area," Rogers told Macworld. "Microsoft is trying to get Windows Media established as the format for digital media, but no-one in Hollywood is interested in that becoming any kind of standard."

He added: "At the end of the day it's the content creators who will drive the digital distribution format."

Microsoft's Windows Media 9 multimedia format – that features digital-rights management – is widely used by European digital-music distribution services, particularly those driven by OD2 distribution. The company released Windows Media 9 for OS X this month.

However, Microsoft's attempt to establish market dominance in the digital-distribution industry has earned it yet more antitrust suits (see "EC slams Windows Media," below).

Rogers said: "All this stuff will work itself out over the next 12-18 months, and our job is to work things out to ensure we are there at the end. Apple UK recently reached a ground-breaking deal with Virgin that ensures iPods are available in its 165 music shops."

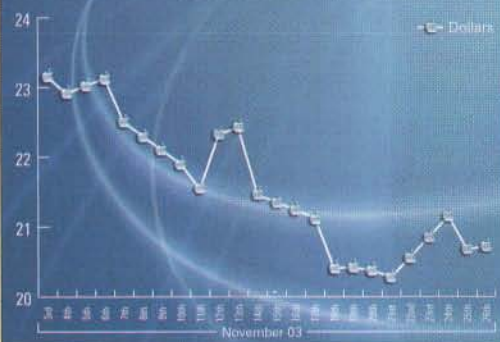
But when Virgin launched its own music-download service it chose to use Windows Media 9, but does not support Macs. "We are discussing this," Rogers said.

Apple is optimistic about the Virgin retail deal, says Rogers, but recognizes consumers visit high-street electrical-good retailers – not music-shops – to buy audio products such as MP3 players. "Maybe we can change that. People don't generally go to Virgin to buy such equipment, but they do buy their music there," he said.

Rogers confirmed Apple is covering the electrical-retailers option, too: "iPods have been made available through Carphone Warehouse retail outlets, and in the top 30 Dixons stores, and we are in conversation about getting them into a further 270 Dixons stores."

Apple may be a victim of its own success with the iPod, as reports suggest iPod demand is outstripping supply. "We'll catch up on supplies," promised Rogers.

Apple share prices Nov 2003



'Innovation the key'

Innovation remains Apple's defining approach to business, stressed chief financial officer Fred Anderson at a recent Lehman Brothers Semiconductor and Computer conference.

Anderson claimed that Apple is emerging from the IT slump with new products for music fans, consumers and small business and is "enjoying accelerated growth" as a result.

He said: "Many who experience buying songs from iTunes will go on to buy an iPod, and maybe a Mac when they buy a second or third computer for the home."

"Apple is an innovator, and to maintain this status during the downturn we have maintained our R&D investment."

Investment Bank UBS said Apple was "uniquely positioned to show earnings improvements over the next two years".

Rogers confirmed Apple is seeing some slight recovery in its all-important creative markets: "Our creative users are entering an upgrade cycle, and slight recovery in the advertising market is giving confidence to the sector."

"Apple believes the Power Mac G5, Mac OS X 10.3 and the arrival of QuarkXPress 6.0 for OS X will stimulate professional sales."

MW

EC slams Windows Media

Microsoft faces condemnation by the EU in a landmark antitrust case that could limit the company's moves to dominate the digital multimedia industry with its Windows Media product.

RealNetworks has complained that by bundling Windows Media with its desktop dominant OS software offerings Microsoft is hindering other standards.

In a private session before regulators, RealNetworks showed how Windows XP Embedded – an industrial-only stripped-down version of XP – can function as an OS without Windows Media. This challenges Microsoft's claim that removing that software would damage the way its OS works.

"Windows XP Embedded is designed for single-purpose use, such as running ATMs," said Microsoft spokeswoman Tiffany Steckler.

The European Commission told Microsoft in an official statement of objections in August that to restore fair competition among music and video players such as Media Player, Real One and QuickTime, Microsoft must either extract Media Player from the OS and sell it as a stand-alone product, or insert a rival player into Windows with its own.

RealNetworks showed over 100 European competition regulators, opponents and Microsoft itself how easily Windows XP Embedded runs without the media player. It also showed how its own Real One Player worked on Windows XP Embedded. "It was a 'gotcha' moment," said one person who was present.

Settlement talks between Microsoft and the EC are now underway.

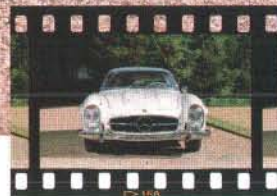
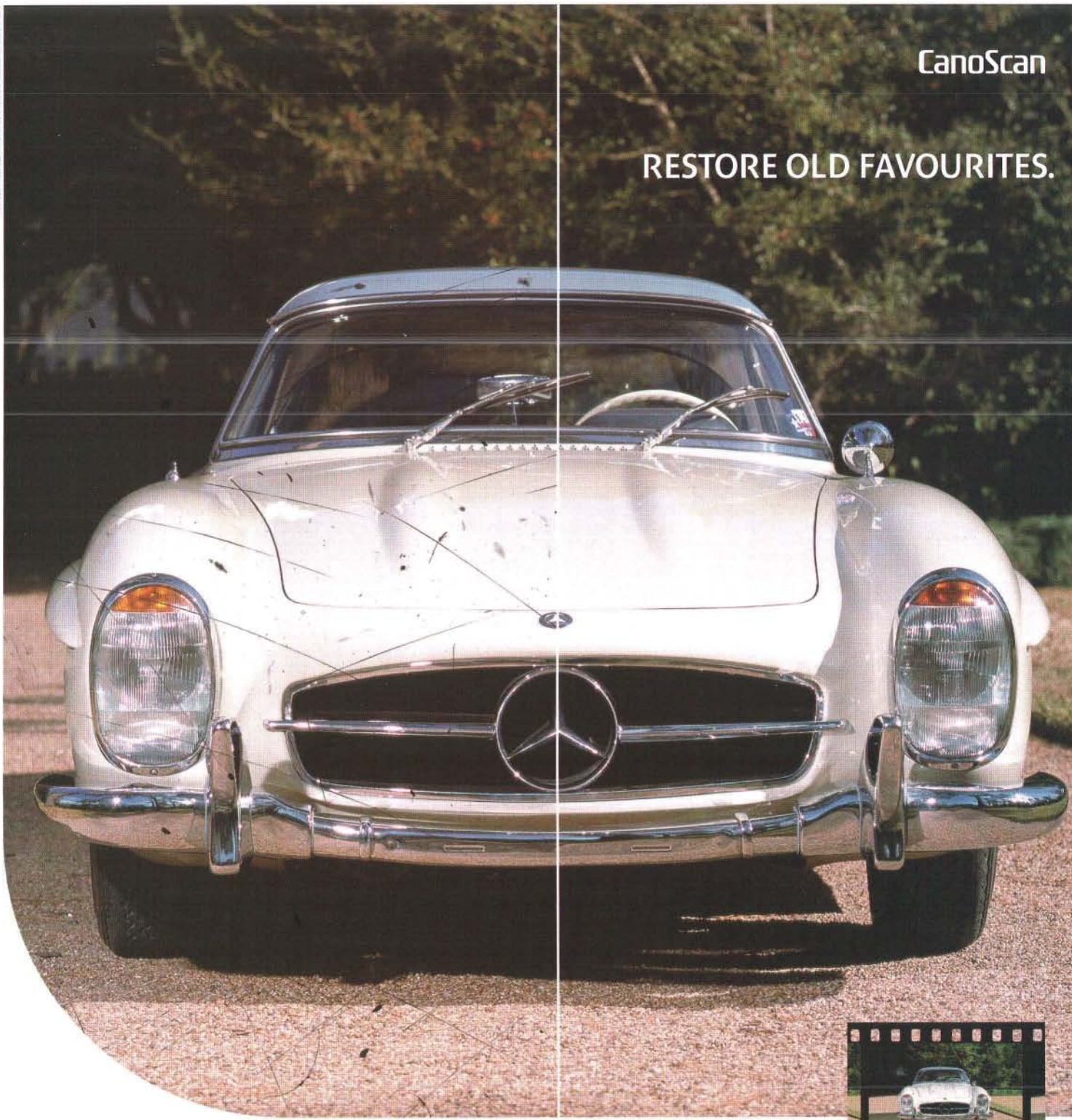
MW



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Canoscan 5000F Versatile flatbed scanner • Scans 3 x 35mm negatives/2 slides • 2400 x 4800 dpi

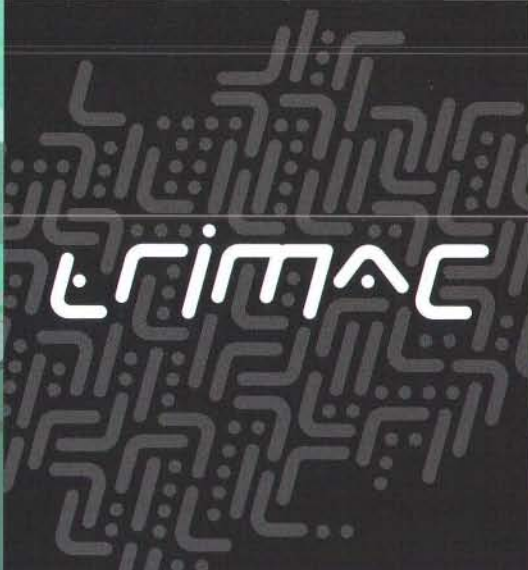
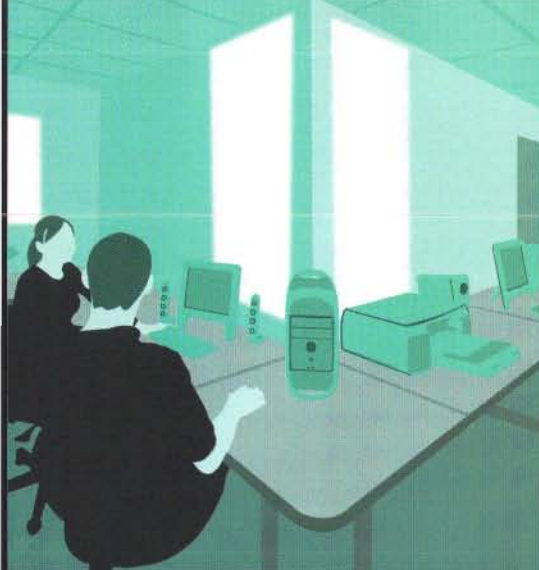
Canoscan LIDE 80 Ultra-slim flatbed scanner • Scans 1 x 35mm negative • 2400 x 4800 dpi

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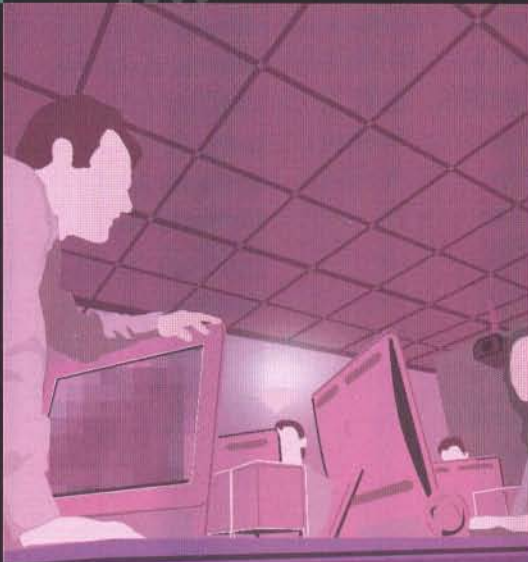
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Education



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services

media training

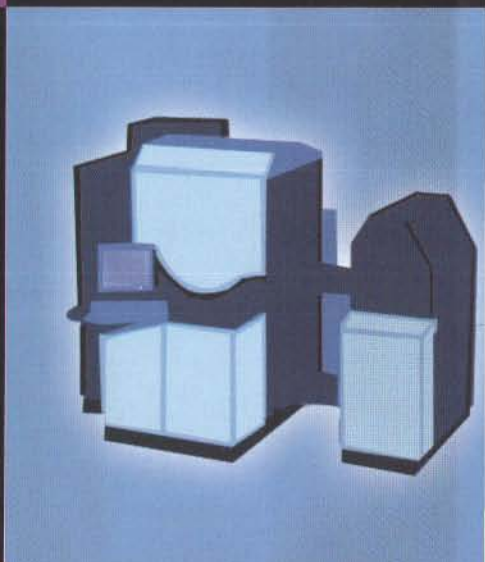


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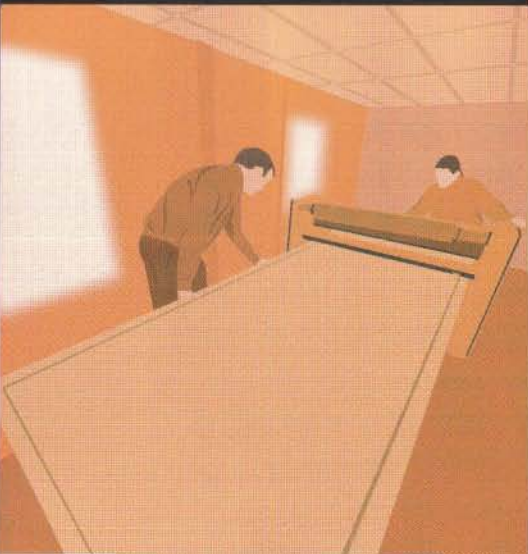
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New FileMaker tools

FileMaker launched two new productivity applications at MacExpo – FileMaker Meetings and FileMaker Tasks. FileMaker Meetings is a meeting-management application that offers features to help build agendas, take and distribute meeting notes, and track action items and deadlines. It also offers a snapshot of previous meetings and associated emails.

FileMaker Tasks is a task-management application that can create and assign tasks, locate and report on tasks, and communicate task-relevant information to a team. Details of tasks are stored in a single, centralized location to which all appropriate parties have access.

The company expects the new applications to attract fresh developers to the platform. FileMaker International's general manager Northern Europe, Tony Speakman, said: "Organizations need to work faster, so there's a great demand for easy-to-use software that helps people get the information they need when they need it. We see a unique opportunity to gain new customers looking for point solutions to the most popular business problems, in addition to those attracted to FileMaker as a toolkit for creating custom solutions."

The company plans to continue to develop similar applications that address specific business tasks, such as sales prospecting, project management, asset tracking and customer service. These applications will "generally include built-in email and reporting templates," FileMaker said.

01628 534 158



Taken to task

FileMaker Meetings and Tasks are ready-to-use applications that are based on FileMaker Pro 6, and require that software to run. Meetings costs £35, while Tasks costs £47. The new applications can also be customized and extended by developers.

Interiors is changing rooms

Microspot introduced a new interior-design application at MacExpo. Microspot Interiors can create a scaled image of an interior design.

It includes interactive rendering to give users an instant 3D view of the effects of additions and changes, and a library containing hundreds of items of common household furniture, lighting, flooring, walls and other surfaces. These items can be moved and resized, and users can scan in wallpaper and fabrics to apply the textures to objects.

Designs can be rendered fully in 3D using Microspot render, which ships with the product. Interiors costs £93.

01622 687 771



Olympus' speedy digi-cam

Olympus launched the C-5060WZ, a five-megapixel camera, at MacExpo. The £600 camera is equipped with a 4x optical wide-angle zoom lens, equivalent to a 27mm-110mm standard zoom – the widest angle of view of any high-resolution enthusiast camera on the market, according to the company. It boasts a three-second start-up time, and a release time lag of 0.4 seconds.

The camera also features four exposure modes: programme, shutter priority, aperture priority and full manual. Also available are sepia, black-&-white, blackboard, whiteboard, and panorama modes.

The 1.8-inch LCD monitor can be tilted up and swivelled round by 270 degrees to provide a clear view of the subject from difficult perspectives.

The camera features movie recording for up to 424 seconds at 15 frames per second, and saves to an xD-Picture Card, Compact Flash or Microdrive. It includes a rechargeable battery that the manufacturer claims achieves 600 shots on one charge.

0800 072 0070

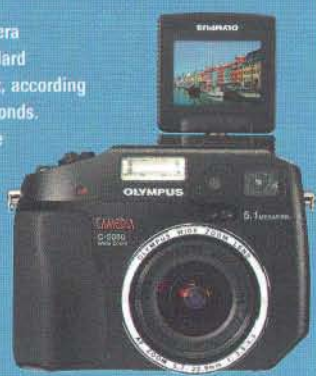


Photo-real concepts

Cadsoft Solutions introduced a new Concepts Unlimited application for Mac OS X at MacExpo. The product costs £2,495 and features include photo-realistic rendering and animation, and precision-drawing capabilities. It sports user-definable 2D, 3D, surface, and solid modelling tools, 17 surface-construction methods, blending, chamfering, and shelling, and produces high-resolution images in a variety of formats.

01223 257 771

Best way to print

Electronics For Imaging's range of Best print-proofing software has been updated. Best Designer Edition 3.0 produces colour-corrected proofs. It also offers a redesigned interface, supports PostScript 3 and PDF/X, and features a nesting function and selectable RIP resolutions. Best Photo Edition 3.0 is a tool for digital photographers that can be used for colour-management and workflow controls. It creates high-quality prints from RGB and CMYK images, and offers a TIFF-export function. Both products are £529 for use with A2 printers, and £764 for A1 printers.

020 8476 7676

Down to business

Hansa Business Solutions launched HansaWorld 4.1 at MacExpo. The latest version of the suite of business software includes 40 integrated modules, including hotel management and a service order module for companies in the service and repair industry. The software costs approximately £1,000 per user, dependent on requirements.

0845 123 2732

PA in-a-box

Green Button launched Perfect PA, a customer-relationship management program, at MacExpo. It manages communications and marketing by filing letters, emails, and faxes in one location. Users can view and store documents on a project-by-project basis, and manage targeted mailings. The network version costs £300 per seat.

020 8487 8654

Apple updates

Apple has updated its Bluetooth software for Mac OS X Panther and Jaguar.



Bluetooth 1.4.1 for OS X 10.3 and 1.3.3 for OS X 10.2 adds increased stability and performance, says Apple. The

Panther upgrade also provides enhanced stability for Bluetooth connections, and improved performance with input devices like keyboards, mice, pointing devices, game pads, tablets, touch screens, and joysticks.

Apple has also issued a Panther-specific update to Java. The company says **Java Update 1.4.1** "delivers functional enhancements and improved stability for running Java applications and applets". It contains support for both Java 1.4.1 and Java 1.3.1, and Apple "strongly recommends" that all users install the update.

Third-party updates

Macromedia has released updates for **Flash MX 2004** and **Flash MX Professional 2004**. The company says the 7.0.1 updates include performance and stability improvements and expanded documentation.

Bare Bones Software's HTML and text editor,

BBEEdit 7.1, now

includes support for SFTP (the SSH file-transfer Protocol), FTP, and live HTML rendering.

Corel Painter 8.1

reintroduces the Custom Palettes from Painter 7, and fixes bugs in earlier versions, including problems with pressure-sensitive graphics tablets. Painter 8 includes 30 media and over 400 brand-new brushes; a redesigned interface; customizable palettes; and layer masks and channels.

MindChimes 4 plays the music of wind chimes in the background – creating a relaxing atmosphere while working on a Mac. The new version adds Mac OS X compatibility and improves performance.

Happy snapper

The £300 Revio KD-420Z has a variety of shooting modes and supports SD Memory Card and Memory Stick storage formats.



Shoot to thrill

Konica Minolta has announced its first digital camera since the two companies merged. The Revio KD-420Z is a four-megapixel (2,408-x-1,758-pixel) model with a 3x optical zoom lens (equivalent to 34-101mm) housed in a 23mm wide stainless steel and aluminium body. It boasts a 0.9-second startup time, and can make autofocus/auto-exposure adjustments in 0.2 seconds, Konica Minolta says.

The camera is able to zoom from wide-angle to telephoto in 0.8 seconds, the release time lag after AF/AE adjustments is 0.03 seconds, and lens retraction is 0.6 seconds, the company claims.

Shooting functions include a Scene Select Mode featuring six programs: Portrait, Landscape, Nightscape, Snap, Sports and Angel, which enhances skin tones for portrait photography. A Super Continuous Mode allows up to three shots to be recorded at 2.5 frames per second and, with a high-capacity memory card installed, any length of movie can be shot using the Unlimited Movie function. A macro feature allows images to be taken from as close as 5cm, and a Manual Exposure Mode with automatic noise reduction lets users select program or aperture priority mode, fixed focus, auto bracket, custom settings, and choose black-&-white or sepia modes as well as warm or cold colour effects.

The camera supports both SD Memory Card and Memory Stick. It comes with Lithium-ion battery, battery charger, USB cable, and 16MB SD card. It costs £300.

020 8751 6121



Microtek's low-cost digi-cam

Microtek has released the Take-It S3. The £119 camera offers 3.21 megapixels, a 4x digital zoom, and can record movies with sound at 320-x-240 pixels and 20fps.

It features 8MB of internal Flash memory, and is compatible with SecureDigital cards.

Images can be transferred to a computer via USB, an AV-Out port lets images and movies play on a TV, and the DPOF (digital print order format) function lets users select which pictures to print before transferring them to the computer or a SD-compliant printer. 01327 844 880

Tiny Finepix debuts

The Finepix F420 Zoom is Fujifilm's smallest camera to feature Super CCD HR technology and video recording, the company claims. It has a 3.1-megapixel (2,048-x-1,536-pixel) effective resolution, a 3x optical zoom lens – equivalent to 36-108mm – offers 320-x-240-pixel movie capture at 30 frames per second with sound, as well as a voice-memo recorder capable of storing up to 30 seconds of sound.

The camera also offers continuous shooting at intervals of 0.25 seconds, PictBridge compatibility for direct printing without a Mac, and a Video Out socket for viewing images on a TV. It has a 1.8-inch LCD monitor, uses a xD-Picture Card, and either a rechargeable battery, or AAA batteries. It will be available in February; price to be confirmed.

020 7586 1477



Weapon of maths seduction

Stick Software has released **Fracture 1.2** – an update to its fractal screensaver for OS X. It draws a variety of types of fractal images created from mathematical formulae, can make images using advanced fractal imaging techniques, and is customizable. The new version adds an option to save every completed image. It costs £6. www.sticksoftware.com



New faces from Agfa

Agfa Monotype has added collections from another six type foundries to Fonts.com. The new fonts include Burghal Design's Vamp, an "angular display face that suggests a nasty disposition", Classic Font Company's Savoy, a blackletter family that includes a series of intricately drawn initial capital letters, and Stak from the Identikal Foundry, featuring an unorthodox x-height that is equal in size to the typeface's cap height. Other fonts from the Ingrimayne, Process Type, and Typadelic foundries have also been added.
0800 371 242

Bryant regular (12pt)
AaBbCcDdEeFfGg 1234567890 !@&()

Savoy (14pt)
AaBbCcDdEeFfGg 1234567890 !@&()

Savoy Overlag (14pt)
AaBbCcDdEeFfGg 1234567890 !@&()

Sweet Pea (16pt)
AaBbCcDdEeFfGg 1234567890 !@&()

Epson woos photo crowd

Epson has introduced a new A4 photo printer. The Stylus Photo R800 prints 1,440-x-720dpi at speeds of 38 seconds for 4-x-6-inch photos and 68 seconds for 8-x-10-inch photos, the company says. The new cartridge includes cyan, magenta, yellow, matte black, photo black, red and blue inks, and a new gloss optimizer. It connects to the Mac via FireWire or USB 2.0 and is expected to cost £350.

Two more laser printers are to join the Epson EPL range. The £994 EPL-N3000 prints A4 at 34 pages per minute (ppm), with a first-page-out in 7 seconds. The £1,787 EPL-N7000 is an A3 printer with a print speed of 19.5ppm for A4, and 35ppm for A4. The first-page-out time is 8.1 seconds. Both print at 1,200dpi.

One of Epson's high-yield toner cartridges is said to produce 17,000 pages a month from the N3000, and 15,000 from the N7000. The N3000 offers a 300MHz Risc controller and 64MB RAM; the N7000 offers a 200MHz Risc controller and 32MB RAM.

Both feature a 700-sheet capacity, extendable to 1,800 sheets in the N3000, and 2,200 sheets in the N7000. The printers also offer duplex printing with an optimal automatic duplex unit. The printers support Rendezvous, and are compatible with a 10/100 Base 4x network connection via USB or a parallel interface.

They also feature live status information including remaining consumable life and automatic troubleshooting on the front panels or on a Mac.

0800 220 546



HP wireless-printing move

The Deskjet 5850 – HP's wirelessly networkable printer – has arrived in the UK. Users can connect up to five computers via an 802.11b network for 21 pages per minute (ppm) black-&-white and 15ppm in colour at 4,800-x-1,200dpi.

The printer features a two-sided printing accessory and a high-capacity 150-sheet paper tray. It costs £199.

HP has also released the LaserJet 4200Ln. The new model serves workgroups of up to seven people. Costing £899, it boasts 28ppm print-speed for A4 documents. It has a resolution of 1,200dpi, 48MB of memory, and an internal HP Jetdirect Ethernet print server. The printer has an input capacity of 600 sheets and a duty cycle of 125,000 pages a month. The all-in-one cartridge, which costs £156, prints up to 12,000 pages.

08705 474 747



Jack of all trades
Kyocera Mita's new network printers offer all-in-one functions.

They're the business

Kyocera Mita has launched a range of network printers offering scanning, copying and faxing.

The £5,380 KM-3035 (above) prints A4 at 30ppm and A3 at 20ppm. It features a 1,200-sheet paper tray, expandable to 4,200 sheets. The £6,437 KM-4035 offers 40ppm A4 and 23ppm A3. The £7,495 KM-5035 provides 50ppm A4 and 26ppm A3 printing.

All three printers include a 10/100BaseT network interface and an internal stackless duplex unit.

08457 103 104

Griffin cranks it to 11

The Griffin iFire amplifier and adaptor for Apple Pro Speakers is shipping for £26. iFire lets an iPod or any computer with FireWire power the Apple Pro Speakers. It connects via a mini-jack cable.

AM Micro, 01392 426 473



Audiobook speaks easy

Alexander Wilson Studios has released Audiobook Studio 3, a £5 OS X application that helps users create digital audio files using text files and Mac OS X's text-to-speech capabilities. Users can insert pauses, speed up or slow down readings, and emphasize or de-emphasize words. Texts can be converted into audio files that can be dropped into iTunes, posted on the Web, or carried on an iPod.
www.kagi.com

RealBasic app ships

RealBasic 5.2.2 is shipping. The tool is Panther-ready, and includes an updated RealBasic Project Manager; a VisualBasic conversion application for developers who want to port their applications to the Mac; and updated Unicode capabilities. The standard version is £98, and the professional version is £408. Academic pricing is £48 for the standard version, and £208 for the professional version.
Cancom, 01483 500 500

Get into shapes

Unsanity has released ShapeShifter 1.0, a £14 product that change the appearance of the Mac OS. Features include previewing themes without applying them and the ability to use Jaguar themes in Panther.
www.unsanity.com

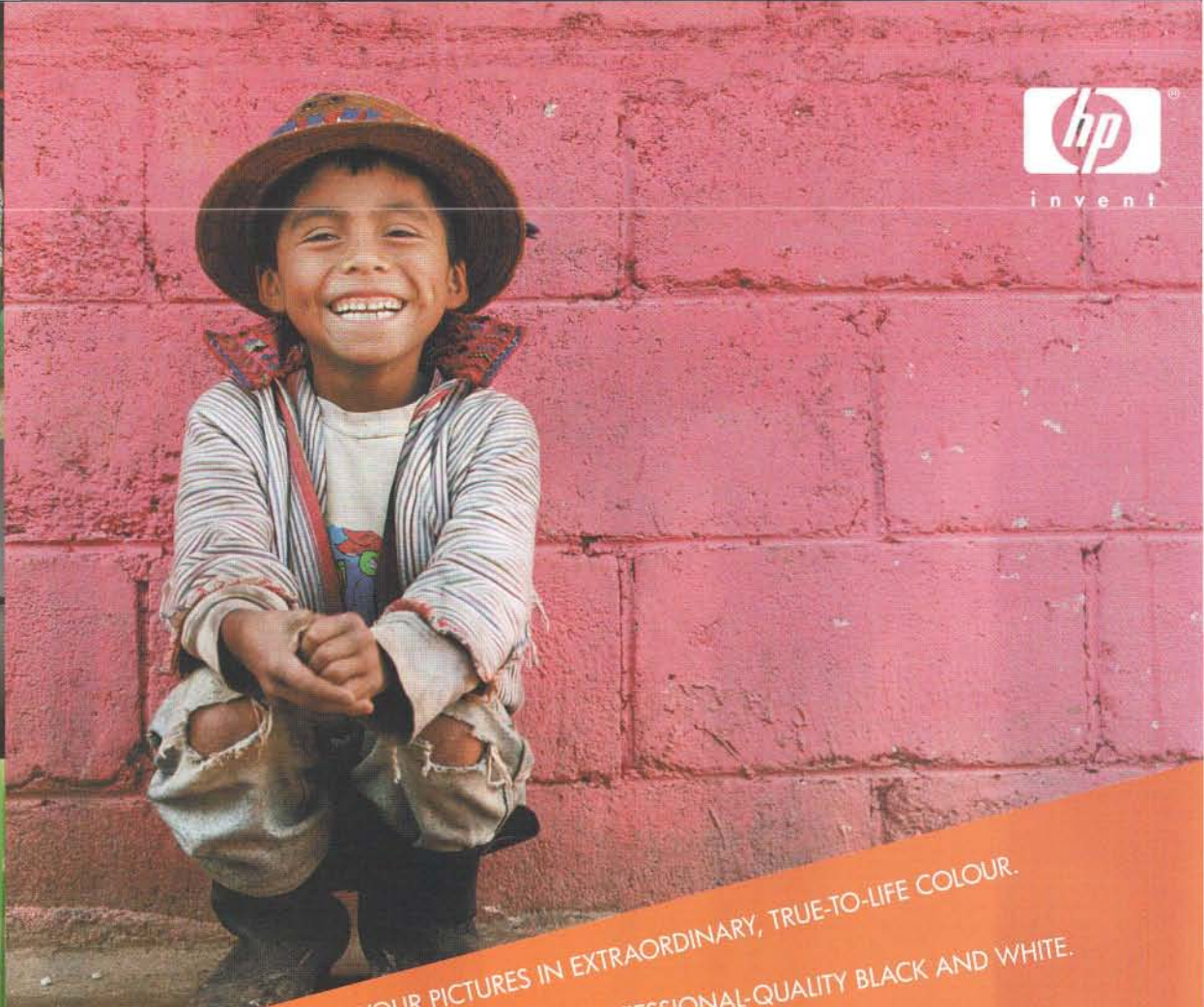
Message app updated

Glass Bead Software has released SnapMail 4.1, an upgrade to its utility that creates a closed, in-house messaging network using TCP/IP. It features customizable one-click Snap responses, Rendezvous support, message icons, and bug-fixes. SnapMail costs £48. Version 4.1 is a free update for users of SnapMail 4.0.
Androcles Consultants, 020 8673 4520



continues page 41





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*Based on Wilhelm Imaging Research, Inc., using the HP 58 photo inkjet print cartridge on HP Premium Plus photo paper.
All images are simulated. Photosmart is a trademark of the Hewlett-Packard Development Company, L.P. © 2003 Hewlett-Packard Development Company, L.P.

FireWire 800 RAID boost

WiebeTech has introduced three new FireWire 800/USB2 storage lines, including a new FireWire 800 fanless desktop storage enclosure, a removable drive desktop storage system with single or dual bays, and a plug-&-play hot-swappable dual-drive FireWire 800 hardware-based RAID device. The company has also cut prices on selected FireWire 400 products.

The new DesktopGB+800 provides dual FireWire 800 ports (FireWire 400-compatible) and a USB 2.0 port inside WiebeTech's DesktopGB fanless enclosure. It provides transfer rates of approximately 50MB per second. Prices start at £144.

The BayDock 800 storage system uses removable trays and is available in single- and dual-bay configurations. The single-bay option starts at £180. The dual-bay option (starting at £315) is available with individual FireWire 800 bridge boards for each bay. WiebeTech claims users will be able to configure soft RAID's, providing read performance in excess of 80MB per second.

RaidTECH provides hot-swappable dual-drive bays in a hard RAID that's plug-&-play on Mac OS X and OS 9.1. RaidTECH has FireWire 800 and includes a USB 2.0 port. RaidTECH may be set as RAID 0 (striped) or RAID 1 (mirrored) by switch selection. The company claims it provides a "far greater level" of backup security because the backup is continuous and redundant. Prices start at £540.

Yellow Technology, 0845 270 2233



Light fantastic

Epson has introduced two new projectors. The EMP-9300 is a high-resolution SXGA+ (1,400-x-1,050-pixel) projector for business use, priced at £14,687. It features 1.4-inch panels with powered lens and zoom, and a powered lens-shift. Projections are up to 300 inches (25 feet) wide and can be projected from angles of +/- 45-degrees and +/- 20-degrees horizontal.

The projector boasts a 1,100:1 contrast ratio, and imaging modes include business-graphics, theatre-colour, video and super-bright, which delivers 2,500 ANSI lumens. Remote control effects include a pointer, straight line, and free line.

The £3,199 EMP-TW500 has been added to Epson's range of home-cinema projectors. Rated at 1,000 ANSI lumens, it will project a 16:9 image up to 300 inches wide from 359-537 inches away in XGA (1,280-x-720-pixel) resolution. The TW500 features a 1.5x powered zoom and focus, enabling it to project an 80-inch image from 2.4 meters, a 10-bit colour processor and Epson's colour management technology, which the company claims improves colour reproduction by enhancing the dark levels and heightening the overall contrast ratio. Six colour modes are available.

0800 220 546

Jessops' scan-plan

Jessops has released its new Primefilm 2700 film-scanner. The unit features a maximum resolution of 2,700dpi and a 36-bit colour depth. It measures 2-x-17-x-7cm, has a maximum scan area of 35mm, and weighs 1kg. It connects to a Mac via USB or USB 2.0, and costs £200. Adobe Photoshop Elements 2 is included. **0800 652 6400**



Multi-port hubbub

Belkin has launched three new hubs. The Hi-Speed USB 2.0 7-Port Hub costs £50 and features two top-loading 480Mbps ports and five horizontally mounted 480Mbps ports.

The Hi-Speed USB 2.0 4-Port Hub offers four 480Mbps ports for connecting up to four peripherals, and offers cascading with other Belkin USB 2.0 4-Port Hubs, enabling the connection of up to 127 USB devices at once. It features over-current protection, and can connect up to two high-speed devices without a power supply.

The Hi-Speed USB 2.0 4-Port TetraHub is able to offer 480Mbps speed data transfer for USB 2.0 devices. The TetraHub guarantees 12Mbps to each of the four ports.

All devices feature LEDs for monitoring master power status and port activity, support hot swapping of USB devices, and are fully plug-and-play.

01933 352 152

XPress tools update

ALAP has released three upgrades to XPert Tools Pro 2.1, adding support for QuarkXPress 6.0 and Mac OS X. The updates – XPert Align, XPert Layers and XPert Scale – cost £70 each. **www.alap.com**



Colours are calling

X-Rite has introduced MonacoOPTIX XR, a colorimeter designed to produce ICC profiles for CRT and flat-panel colour displays. There are two editions. For £247, customers get Monaco's software and the MonacoOPTIX XR colorimeter. For £341, the MonacoOPTIX XR PRO package includes the colorimeter and Monaco's advanced profiling software with workgroup support and expert controls. **01661 820 214**

Swatch this space

Old Jewel Software has updated Painter's Picker. The tool adds the ability to choose related colours within the colour-picker in Mac OS X. It also adds more-precise controls for saturation, and the ability to choose colours in the CMYK colour-space while controlling hue, saturation, and brightness. A single-user licence costs £10. **www.oldjewelsoftware.com**



Software RIP goes X

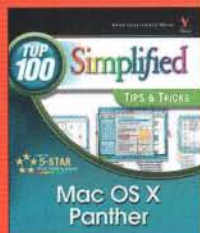
Shiraz, AIT International's PostScript software RIP for large-format digital printing, is now OS X-compatible. Version 6, priced at £895, supports large-format inkjet printers from Encad, Epson, HP, Mimaki, Mutoh and Roland; can be configured to meet different workflows; is able to RIP separate jobs at the same time; and can drive several makes of printer, AIT says. **01732 875 000**

Spector's spy game

Spectorsoft is shipping Spector for Mac OS X. Spector takes screen shots of a Mac and saves them for viewing later. The application is designed for employers wanting to check on their staff, and parents who want to see what their kids are up to on the Web. Internet-detective-agency, **0870 747 2110**

continues page 42

CDs & books



Tips and tricks

Mac OS X, Panther Edition: *Top 100 Simplified Tips & Tricks* will be published by Wiley on February 11. It provides details of 100 useful techniques that can be performed in the latest version of Apple's operating system, including timesaving tips, secrets, and productivity tricks.

£13.95
ISBN: 0764543954

OS X for Unix geeks

Mac OS X Panther for Unix Geeks will be published by O'Reilly in February. The book offers advice for Unix users setting out to explore Panther. It eases readers into the Unix innards of Panther, giving a quick overview of the Terminal application and advice on using the Apple's X11.

£14.70
ISBN: 0596006071

The complete guide

Mac OS X Panther in a Nutshell will be published by O'Reilly in February. It offers a complete guide to the new OS, providing details about user-interface elements, system and network admin, development, and scripting. It includes a Unix reference.

£23.54
ISBN: 0596006063

Panther in pictures

Mac OS X Illustrated Panther Edition will be published on January 21 by Wiley. It's a full-colour guide that offers concise, visual explanations of the Panther interface, and tools, including the iLife suite, and features clear, jargon-free instructions.

£16.99
ISBN: 0764543970



Schools' projector tonic

Epson has introduced two projectors, designed for the education sector. The S-VGA EMP-54 and the XGA EMP-74 feature a range of colour modes, including Blackboard mode, which automatically corrects the colour saturation of the projected images, making it easier to present on a blackboard.

The projectors feature two input interfaces for connecting two computers. Users can switch between the two inputs via the remote control or directly from the projector. In High Brightness mode, the projectors produce 2,000 ANSI lumens. In Economy mode the output is 1,500 ANSI lumens, and the lamp will burn for 3,000 hours, according to Epson.

Both projectors feature Auto Keystone Correction to compensate if the projector is off-centre. They can project a 60-inch screen from 180cm, claims the company. There's a range of security modes and a Help function that Epson says troubleshoots operating issues and corrects errors. The EMP-54 costs £1,599, and the EMP-74 £2,299.

0800 220 546

Kids and ANSI

The EMP-54 (above, left), and the EMP-74 (above, right) are designed for use in schools, with a special mode for projecting images onto blackboards.

Book releases for '04



Bonnie Blake and Doug Sahlin's **50 Fast Digital Video Techniques** has been published by John Wiley & Sons. The step-by-step guide outlines 50 editing tricks that show how to create professional videos with special effects, including managing lighting conditions, shooting sporting events, and creating effective transitions and scene changes in iMovie.

It describes the process of delivering video in VHS, DVD, Video-CD, and for the Web. An interactive CD includes ready-made HTML templates to quickly get movies up on the Web, before-and-after source-video files for the technique steps in the book, and video training software.

£17.50
ISBN: 0764541803

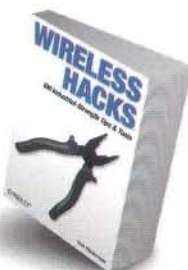


Special Effects: Retouching and Restoration, by Tim Daly, will be published by RotoVision in January. The book aims to answer the question "Why digital?" by addressing the advantages of digital versus traditional photography.

The project-driven book examines the breadth of special effects and manipulations achievable using digital technology, and aims to show all the processes – allowing the digital photographer to follow the manipulations step by step.

The book also shows how to get the best from software imaging packages, how to revive disappointing or flawed images, and how to get top-quality results. It features real-life projects, illustrating how to use digital technology to its fullest capacity.

£16.99
ISBN: 2880467535



Wireless Hacks, by Rob Flickenger, has been published by O'Reilly. The guide claims to give 100 industrial-strength tips and tools, including making sense of the alphabet soup of the 802.11 standards; using Bluetooth, mobile radios, and mobile data networks; practical methods for detecting, analyzing, and monitoring wireless networks; extending the range of a network, and making the best possible use of the available radio spectrum; designing and building antennas; and understanding the security issues of wireless networking.

£35
ISBN: 0596005598



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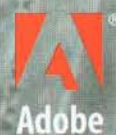
HEARTACHE

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Introducing the Adobe® Creative Suite.
Open it up and you'll find next generation
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and GoLive® CS. All conveniently combined
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track of your files. So now you can go ahead
and play around with your ideas all you want.
www.adobe.co.uk/designtherapy

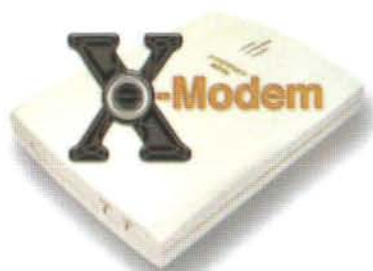
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US, US, US. That's them sorted. But what about the other 'us'? We in the UK want the niftier slices of the iLife pie...



Blighted in Blighty

As we enter another new year, it occurred to me that there are a few things that I have been waiting for that just may be arriving soon. Unfortunately previous form suggests I'll still be waiting this time next year. That's right, I'm waiting for Apple to get its finger out and bring us the products that our American cousins already enjoy. In fact, they may be bored with them by now.

The first on my list is a feature found in the US version of iPhoto, the Album option. iPhoto has dozens of goodies that we can access, such as integration with Homepage on a .Mac account. But the missing album feature can do something even more amazing. Take a collection of holiday snaps, Christmas pics or wedding shots and click the Album button. As if by magic, your photos are sketched out in a book and you're given the opportunity to write captions and dedicate the book to family or friends. Click another button and a real book is printed and sent to you, with glossy pages and bound in a choice of covers. I'm dying to use this feature to send my mother-in-law a book of pictures of my new house, her lovely daughter, and all sorts of other things. Unfortunately, I can't because this feature isn't available to us non-Americans. Ironically, my mother in law is actually in the US, but I still can't access the features.

Why on earth can't I do that? What possible reason could there be to not let me take advantage of such a great feature? I suppose the book production plant is in the US, so there's a minor hurdle, but I often order things from the US without a hitch. I may wait a little longer for delivery (though often not), and it might be a little more expensive than sending a book to a US address, but I want to be able to do it, regardless of cost. I just don't want to be shut out because I'm in the UK. It would be the easiest thing in the world to just accept UK orders, maybe charge a little more, and ship the books a little further.

This minor indiscretion a couple of years ago was touted as a feature "not yet available in the UK". Of course Apple didn't come right out and say "no, not now, not ever" but it may as well have. I think somebody should be looking out for our interests because Steve Jobs obviously doesn't hold the UK market in high esteem. I say it's Steve Jobs for two reasons. First, he has shown time after time that he doesn't really care about the world outside Silicon Valley. I also say Steve Jobs because the more I say Steve Jobs the more likely it is that his clipping company will find this piece and put it under his nose. Hi, Steve.

Now I've got your attention, how about fixing Sherlock so it does something useful in the UK? It's entirely US-centric, and I want to be able to look up movies by postcode and search for phone numbers. Sherlock was so

cool when it first came out that it didn't seem to matter that some features were missing in the UK. But we're on version 3 now, and we still don't have the features. It's like it's fallen down the back of Apple's sofa and been forgotten about. Well, I haven't forgotten; I want the nifty features they have in the US, so I can tire of them in my own time.

The last two features I think we can actually live without, but the next one is already changing the way I do things. Yes, the iTunes Music Store. I want it. In fact, until I get it I refuse to buy any CDs. I won't listen to anything new until Apple can sell me music the way I want to buy music – electronically.

Unlike the iPhoto and Sherlock features, where the lack of availability could easily be fixed if Steve put his mind to it, the international music publishers are different kettle of fish. Steve can boss around his developers, he can even boss around his vendors, but he isn't so hot when it comes to bossing around Sony, Universal and the other music big-boys. Steve Jobs might be the toughest kid in his own schoolyard, but the international music publishers are bigger and quite possibly meaner.

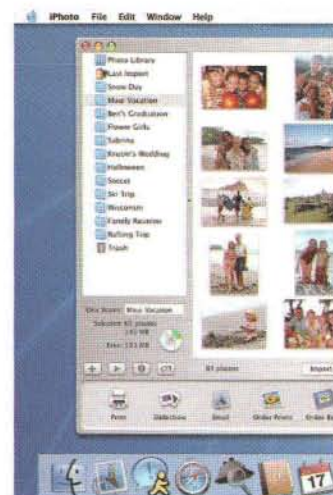
I'd like to think Steve is up to the job, but previous examples show that once he has his feature – available to him and the rest of the US – he forgets about the rest of us. There's a chance he won't back down from the fight for a European iTunes Music Store, but I just don't believe his heart is in it. The last inside information I had on the status of a European deal was that it wouldn't be before Christmas. But I'm not holding my breath for a January launch, not given previous form.

So come on, Steve – put your dukes up and start fighting for a European iTunes store. I think I speak for many UK Mac people when I say that a nod in our direction is long overdue. Perhaps a visit and even a keynote in the UK would be in order. Steve does occasionally grace the UK with his presence. But he does in the same way George Bush handles a visit to Iraq, short and sweet and most people don't even know he's here before he's gone.

Perhaps he's scared of meeting users that don't honour him like a god. The grumpy curmudgeons that make up a sizable section of the Mac community in the UK might be a bit off-putting (they scare even me sometimes), but perhaps they wouldn't be so grumpy if they thought Steve cared.

I've made it an ambition not to meet Steve, and have successfully avoided eye contact whenever I'm at close quarters with him at shows. I'm wary of his habit of judging people on first impressions. Perhaps if he deemed it suitable to come and speak to UK users, I might relent. Come on, Steve – how can you refuse an offer like that? MW

'Come on, Steve – put your dukes up and start fighting for a European iTunes store. I think I speak for many UK Mac people when I say that a nod in our direction is long overdue.'



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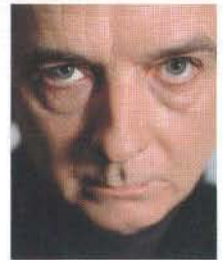


Safety
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The only thing we can be sure of is existence.
The trouble is, we don't know *what* exists
until it's already kicked us in the backside.



Reality bites

I recently read that while solipsism and related doctrines are logically self-consistent, they can be comprehensively refuted simply by taking them seriously as explanations. And although they all claim to be simplified world-views, such analysis shows them to be indefensible over-elaborations of realism. Real entities, on the other hand, behave in a complex and autonomous way – or as Dr Johnson once said, “If it kicks back, it exists”.

The only reason this column apparently exists at all this month is because one of our editors managed to find a relevant email buried in the quagmire of indefensible over-elaborations of realism which we fondly refer to as spam, and I managed to do likewise in order to squeeze in under the illusion of a passing deadline. In order for this to happen I had to delete over 188 moronic missives offering me repetitive opportunities to buy cheap viagra, acquire a bigger penis, order loads of useless or tacky products and services from American companies that only operate within the continental US, or enjoy pictures or videos of women engaging in questionable activities with farm-yard animals and/or humorous root vegetables. Apparently, the editorial staff, and most other people I know with email addresses, also have to address similar levels of pollution on a daily basis. Personally, I'm a bit suspicious of all the anti-spam software adverts that intermingle in this digital quagmire, but then hey – maybe I'm just paranoid.

But then again, maybe pollution and reality have much in common and shouldn't be taken all that seriously as explanations for nearly anything. It seems that we've become so accustomed to disinformation, political rhetoric and nanny-state or litigious-tinged scare tactics that we don't even notice realism even if it does kick back. In the US, in cities such as Los Angeles and other bastions of civilized sophistication, you can't smoke a cigarette in a bar, and you can sue McDonalds if you're too fat. This is despite the fact that people walking in the streets breathe in at least the equivalent fumes of smoking 569 cigarettes a day, and the simple fact that if you eat like a disgusting pig and never get out of your car, you'll probably end up being an ugly fat fcuk.

Here at home, those in the know want to stop smoking in pubs and other public places, and it's now an accepted 'fact' that using a mobile while driving is more dangerous than talking to a passenger, smoking a fag or eating or trying to cope with several screaming kids while driving. But maybe all that will be demonized and made a criminal offence shortly as well. Let's face it – fact and politically correct fiction haven't just merged, they've been coercively remanufactured into ugly, twisted meta-dramas. And if we're not careful, the moon will fall out of the sky as well.

We all do it, one way or another. For example, I haven't a clue whether or not Apple will actually buy Vivendi's Universal Music Group. But I bet loads of you would just love to hear some sort of solipsistic drivel passed off as an informed opinion. And normally, I don't mind obliging. Meanwhile, Apple denies it has made an offer, but rumours persist that talks are ongoing. And ripples in the Force suggest that Microsoft's evil empire has parked the Death Star round the back as well as a potential buyer of what is allegedly the world's largest record company. As meta-dramas go, I suppose it would be rather cool to see Universal, which pulls in more than \$6 billion annually on the sale of music in conventional CD format, be acquired by a company whose recent advertising included the slogan “rip, mix, burn,” which in another twist, seems to be regarded by many as an invitation to pirate music.

On a positive note, the reinvention of Apple seems to be an organically evolving process and perhaps buying a record label could move Apple in a direction that maximizes its strengths. On a less-positive note, Apple still has less than three per cent of the global market. But like most of what passes for reality, it's all down to angles. And as new theories, rumours and explanations supercede old ones, predictions become important only for their crucial tests to enable us to discriminate between competing theories that have already passed the test of being good explanations.

The only thing that seems to kick back here are the facts that spam is an evil marketing-driven pain in the bum; generalities and politically correct clichés are making us inadvertent actors in stupid sick meta-dramas that would be funny if they weren't so dangerous; and that the hallmark of all Apple's products is, now more than ever, careful attention to detail. Sometimes it's the little things that really make the difference – so to be painfully honest, I don't really care if Steve wants to buy Universal. Maybe the kick comes from just thinking rather than making too much of a point about thinking 'different'. The say that abstract entities that are complex and abstract exist objectively and are actually part of the fabric of reality. However, they also say that truths cannot be known with certainty and that proofs don't always confer certainty upon their conclusions.

OK, maybe it sounds like somebody bought me Occam's razor for Christmas. But without complicating explanations beyond necessity, maybe reasoning, which uses observation not as a basis for extrapolation but to distinguish between otherwise equally good explanations, is all we really need to give us a genuine knowledge about reality that really has the ability to kick back. I suppose you just have to be careful where you're standing.

'It seems that we've become so used to disinformation, political rhetoric and litigious-tinged scare tactics that we don't even notice realism even if it does kick back.'

Macworld reviews iMac G4 range



iMac G4 15-inch 1GHz

Manufacturer: Apple
Pros: Least expensive iMac; flexible neck; small footprint; smart design; 80GB disk.
Cons: Lowest resolution; smallest viewing area; requires more RAM.
Price: £999 including VAT.
Star Rating: ★★★★★/8.4

iMac G4 17-inch 1.25GHz

Pros: Widescreen; large viewing area; 1.25GHz G4; flexible neck; small footprint; smart design; 80GB disk; 64MB VRAM.
Cons: Requires more RAM.
Price: £1,449 including VAT.
Star Rating: ★★★★★/8.6

iMac G4 20-inch 1.25GHz

Pros: Widescreen; largest viewing area; 1.25GHz G4; flexible neck; small footprint; smart design; 80GB disk; 64MB VRAM.
Cons: Requires more RAM.
Price: £1,749 including VAT.
Star Rating: ★★★★★/8.7



For the first time since the multiple DV and DV+ models of G3 iMac, there are now three distinct iMacs from which to choose. If you thought that the 17-inch iMac's screen was luxurious (it certainly is compared to the rather cramped 15-inch display), the new 20-inch monitor is the height and width of indulgence.

Screen You measure a screen in two ways. First, the viewing area is the actual amount of screen real-estate measured in inches. Second, there's a maximum resolution – the number of pixels (picture elements) that can be displayed from side-to-side and top-to-bottom. The more pixels you squeeze into the viewing space, the tighter the images and smaller the text.

The 15-inch iMac offers a maximum resolution of 1,024-x-768 pixels, the same as the old G3 iMac but spread over a larger area (a 15-inch LCD screen is equivalent to a 17-inch CRT, as found on the eMac).

The 17-inch iMac can handle a much greater 1,440-x-900 pixels, and the 20-inch a massive 1,680-x-1,050 – that's more in height than the 15-inch can manage across.

Although a lot more expensive than the other iMac models, if you subtract the £1,049 that the 20-inch Cinema Display costs – you end up getting a 1.25GHz G4 iMac for just £700. This won't attract the budget-conscious eMac buyer, who can pick-up a 1GHz G4 with 17-inch CRT screen for a mere £649 – but it does offer professional layout artists or musicians, for instance, a much-cheaper option than a Power Mac G5 and external LCD. Apple has rightly described the 20-inch iMac as a "boundary system" that will appeal to the less budget-conscious consumer and lower-end professionals who don't require top speed or expandability.

Performance Internally, differences are minor: the top models both sport a 1.25GHz G4, while the 15-inch iMac runs at 1GHz. The 17-inch and 20-inch models boast a 64MB NVIDIA GeForce FX 5200 Ultra. The iMac's no Power Mac G5, but it's easily fast enough for most applications.

The 1.25GHz G4 is not 25 per cent faster than the 1GHz – but it's not far off at 19 per cent faster overall. The Speedmark

score is made up from a set of 16 everyday tasks. Users of Apple's iLife digital-lifestyle applications will certainly feel the benefit of the extra processor megahertz – but of greater importance is the screen space afforded by the top two systems. Gamers will definitely appreciate the 64MB of video memory and faster graphics acceleration.

Affordable, user-friendly digital photography means that Adobe Photoshop is no longer the preserve of the designer, so artists and snappers alike will gain from the 23 per cent performance boost here.

Each iMac comes with 256MB of RAM, which is just enough to run OS X and a couple of applications at the same time. If you use your Mac for more ambitious tasks than email, Web browsing and word-processing, at least another 256MB of RAM is recommended. Beware, one of the iMac's two memory slots is inaccessible to the humble user – so it's best to get as much packed into that slot when you buy, so that the other slot can be filled cheaply later.

Ports and drives All the iMacs offer the same set of ports and connections: two FireWire 400, three USB 2.0, 10/100BaseT Ethernet, and VGA output for video mirroring. Each is AirPort Extreme ready (card costs £79), and can be fitted with an optional internal Bluetooth module (£35). Each ships with an 80GB hard disk, that can be upped to 160GB for £79 – worth it if you're a heavy iMovie or iTunes user.

The major difference is in choice of optical drive. The 15-inch's combo CD-RW/DVD-ROM drive is bettered by the top two's DVD-R SuperDrive – which, with free iDVD, lets you create DVDs that play in domestic DVD players.

Macworld's buying advice

If you can, get to an Apple reseller and take a look at the screen sizes on offer. Because the performance between the 17-inch and 20-inch iMac is identical, and the prices are wide enough apart for you to draw breath, it really does come down to budget and screen-size compromise. The 17-inch screen is voluminous, but the 20-inch display is simply magnificent.

Simon Jary

Latest iMac range speed-tested



Best results in test.



Speedmark 3.2 scores are relative to those of a 700MHz eMac which is assigned a score of 100. Photoshop, iMovie, and iTunes scores are in minutes:seconds. Quake scores are in frames per second. We tested the systems with 256MB RAM. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds long, converting it from the hard drive using iTunes' Better Quality setting. We tested Quake III at a resolution of 1,024-x-768 pixels with Graphics set to High Quality. Systems were upgraded to 512MB of RAM for the Photoshop, Cinema 4D and Compressor Test. The Photoshop Suite test is a set of ten scripted tasks using a 50MB file. Photoshop's memory was set to 100%, and History was set to Minimum. We encoded a 6-minute:46-second DV file using the MPEG-2 60-minute-Fast encode preset in Apple's Compressor application.

– Macworld Lab testing by James Galbraith & Kristina DeNike

In its quest to make Mac OS X the platform of choice for software developers, Apple has released Xcode, a graphical integrated development environment (IDE) that ships with Panther's Developer Tools CD.

It must be installed separately with the familiar OS X package install routine, and needs to be on the same partition as the system files. Although Xcode will install only on Panther, applications can be developed for previous versions of OS X.

Developers will already be aware of OS X's existing IDE, Project Builder. Surprisingly, Project Builder remains despite the numerous usability and technical features that Xcode brings to the table.

As with all IDEs, Xcode features tools designed to remove many of the repetitive tasks involved in writing applications.

One of the most apparent is Xcode's new project assistant that's launched when New Project is selected from the file menu. It lists all supported language types, including AppleScript, C and Java, as well as an empty project. The assistant comes in handy as it saves a lot of time by setting up the required files and build styles for the application type.

Existing Project Builder and CodeWarrior projects are easily imported into Xcode with the import assistant which retains the same project name.

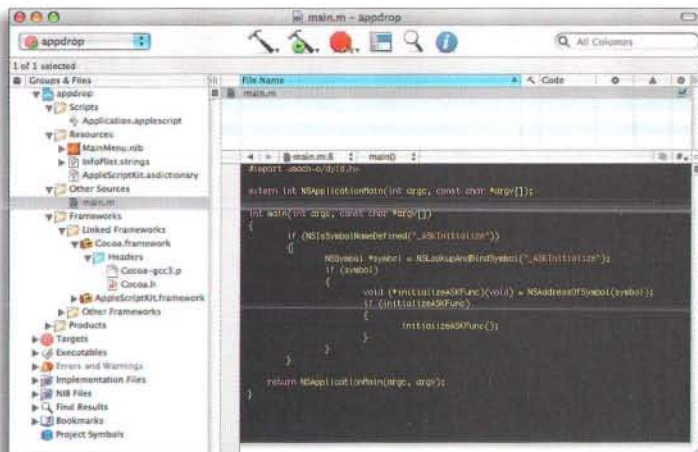
Xcode's interface consists of four main areas: the top panel, which includes the toolbar, search field and status bar; the Groups & Files section, which houses pre-defined Smart Groups and project files; the detail view, where group and file information is shown; and the editor, which displays text.

The aim of this interface style is to help coders gain quick access to the files in a project. This works well when using the assistant to begin a project; however, if a raw source-code file is opened with Xcode, the plain editor will launch on its own – which appears out of context.

The Smart Groups pane makes navigating the multitude of files in a project easy. This is particularly useful for tracking down file versions or bookmarks.

Xcode's native code editor is hidden by default and must be turned on with the Show Editor button on the toolbar. Coders can jump between functions with the editor's built-in menu. This navigation menu can be set to show functions in alphabetical order. Of particular use is the editor's support for dragging a text file from the Finder for it to be displayed.

Unlike many IDEs that have tabs for displaying many source-code files simultaneously, Xcode's editor streamlines



Editor's choice

The code-editor supports the most common customization features of a programmer's editor, such as syntax highlighting, indenting, and customizable colours.

this with arrow buttons for jumping from file to file – and a dropdown menu alongside it allows any open file to be selected with the mouse. The ⌘-Option-Left or Right-arrow key sequence can also be used to switch between open files.

Developers coming to the Mac from a Unix background will be pleased to know that Xcode's default editor can be replaced by emacs or vi. Support for vi is still experimental and results in it being launched externally in a terminal.

Additional features of the editor include the ability to automatically complete common code such as function class names.

More pre-emptive functionality is present in Xcode's search tool that, like Finder, will begin displaying results as soon as letters are typed into it. This is very responsive and tracks down lost files quickly.

Usability issues

For all its promises, working with Xcode's interface will take some getting used to. And although Xcode's preferences has a section dedicated to customizing its keybindings, keep the mouse handy, as a lot of navigation still relies on it.

In addition to Xcode's usability features, the application includes a couple of tools to help decrease the amount of time spent compiling code. Xcode's predictive compile feature – which isn't enabled by default – uses the GCC compiler to start compiling as you're editing your code.

For further speed improvement, the Rendezvous-enabled Xcode can use more than one computer on a network to compile a job. Another text editor for OS X, Hydra, uses Rendezvous for collaborative editing, so keep an eye out for additional

applications of this technology by Xcode.

Recognizing the fact that all developers – experienced or not – require some form of documentation, Apple has developed a documentation system for Xcode. Documentation is a blessing when you need to know the specifics of a function method; however, it's launched as a separate window and would be easier to navigate as part of the main interface. Nevertheless, being able to quickly search through the documentation is very helpful.

Another tool that is separate to Xcode's main interface is Debug, the code debugger. Being based on the mature GNU debugger, Debug performs as expected, but like Xcode's documentation, hasn't been integrated into the main interface – it requires an additional window.

Like all IDEs, Xcode will help you speed up application development, but it won't go very far with helping you learn how to code. Books and other reference materials are good places to start, as well as reading the code from various open-source projects. A selection of open-source applications for OS X can be found at Freshmeat's OS X section – <http://osx.freshmeat.net>.

Macworld's buying advice

Xcode marks a new way of thinking for OS X application development – and for a first release is stable and performs well. With its setup assistant, layout, and searching capabilities, Xcode should appeal to those looking to get started with Mac programming. Experienced programmers – particularly Unix hackers – may find Xcode slow to work with, and lack of vi integration will certainly upset a few.

Rodney Gedda

Software development

Xcode 1.0

Publisher: Apple

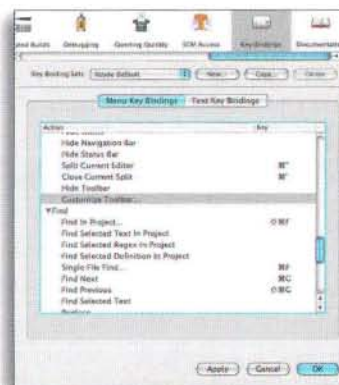
Pros: A more holistic approach to Mac software development; fast file-and-documentation searching.

Cons: Steep learning curve; data-protection issues in first release.

Min specs: Mac OS X 10.3.

Price: Free with Panther.

Star rating: ★★★★★7.4



Preferential treatment

Although it's possible to set keys for many functions, Xcode still relies heavily on the mouse.

Important Xcode update

With OS X users used to regular software updates, it comes as no surprise that the first update to Xcode, version 1.0.1, has emanated from Apple. Critically, this update claims to address an issue that may result in data corruption or the loss of files. It goes without saying that all Xcode users should perform the upgrade.



Luxury peripherals

Manufacturer: Microsoft
www.microsoft.co.uk, 0870 207 7377

Wireless Optical Mouse 2.0

Pros: Super-smooth scrolling; tilting scroll wheel.
Cons: Requires batteries.
Min specs: USB.
Price: £39.
Star Rating: ★★★★★/8.9

Wireless Intellimouse Explorer

Pros: Extra buttons; smooth scrolling; tilting scroll wheel.
Cons: No good for lefties.
Min specs: USB.
Price: £55.
Star Rating: ★★★★★/8.8

Wireless Optical Desktop Elite Executive Edition

Pros: Loads of buttons; scroll wheels on mouse and keyboard; smooth, tilting scroll wheels.
Cons: No good for lefties, pricey.
Min specs: USB.
Price: £119, or £99 for the non-Executive version.
Star Rating: ★★★★★/8.8

All prices include VAT.

Microsoft Wireless Optical Desktop Elite Executive Edition

My love of Microsoft mice is no secret. The company might make diseased and dreadful operating systems, but its mice and keyboards are just spiffy. We looked at its latest offerings, in the shape of two mice and a keyboard.

I'll start with the **Wireless Optical Mouse 2.0 (WOM)**, which seems plain and simple. Mice have been around for as long as I have (since 1964, fact freaks) and you might be forgiven for thinking that mouse technology is mature and that there isn't much room for improvement. You would, however, be dead wrong; Microsoft has come up with some great new features.

The first, which may or may not catch on, is the side-scrolling tilt-wheel. This works like a regular scroll wheel, but can tip from side to side as well. This enables scrolling sideways, which is great for big spreadsheets, Photoshop documents and all kinds of other stuff. It works well, but only up to a point. The first hurdle is actually remembering to do it, which I'm getting used to after using it for a couple of weeks. This shouldn't be a big problem, but the next issue could be more serious.

The actual action of tilting the wheel requires a firm grip on the mouse. This action could be problematic for RSI sufferers. However, sensible use (if it starts hurting, stop doing it) will eliminate the risk. I've been using it without problems, but once you have RSI, sometimes even simple actions can cause problems. If you're prone to that kind of thing, sideways scrolling isn't for you.

Smooth operator

Curiously, the big draw for me is not the sideways scrolling. The thing that had me running around the office, begging people to try my mouse was the scrolling action itself. It's smooth. It's smoother than smooth. Smooth scrolling technology; I can't believe it took almost forty years to happen.

The tilting wheel with silky smooth scrolling features on both mice. I'm currently using the Wireless Optical Mouse 2.0 not because it's the best one necessarily, but because it's ambidextrous.

Unfortunately being a lefty means that I'm excluded from Microsoft's premium top-of-the-range mice, because they're for right-handers only.

Now I understand that only representing around ten per cent of users my left-handedness is a problem for mouse manufacturers. However, I think there's a fair chance that Microsoft will shift a quite a lot of these mice and keyboards. Surely if any company is big enough to produce lefty mice, Microsoft is. I think it's about time it did.

Anyway – enough moaning and on to the next mouse: the right hander only **Wireless Intellimouse Explorer 2.0 (WIE)**. This mouse is really a cracker. It has all the features of the other mouse, plus a couple of thumb buttons on the side. These are perfectly placed and are great for copy-&-paste or forward and back commands. You can assign any function to any button, and even have different functions in different applications.

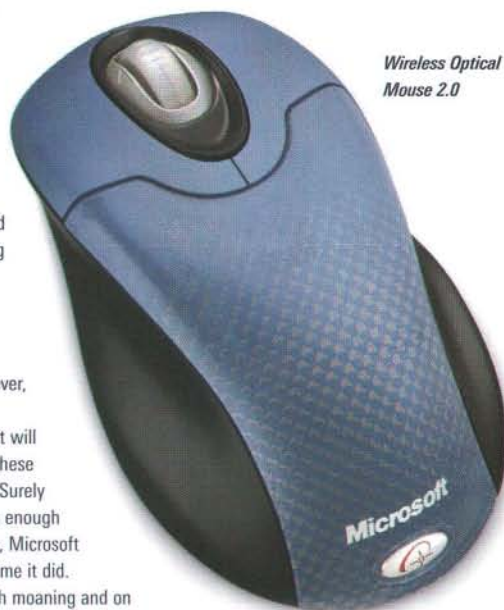
The WIE 2.0 is silver rather than the rather fetching blue of the WOM 2.0, and I don't think it's quite as neat-looking. But you spend your time mousing rather than gazing at your mouse, so looks are less important than function.

Despite the handedness issues, this is a king of mice. Years of designing mice have resulted, in my humble opinion, in the ultimate mousing experience. What will they come up with next?

Hell for pleather

So what happens when you take the ultimate mouse, pair it with the ultimate keyboard and then wrap them both in (pretend) leather? Well you'll end up with the... deep breath... **Microsoft Wireless Optical Desktop Elite Executive Edition**. I'll just call it the MWODEEE for short.

It's great. It has more buttons than a pearly king, and it includes the tilting scroll wheel on the left side of the keyboard. Of course, it's designed with right-handers in mind – and is, simply, the ultimate keyboard. On the top left, there are five buttons for your favourites. These can be configured to activate any function you like. If you don't fancy



Wireless Optical Mouse 2.0

the pleather (pretend leather) effect, you can save £20 by choosing the non-Executive edition.

There is one thing that irritates when using a Microsoft keyboard, and that's the horrible windows button. The software can arrange the keys so that they act in the same way as a Mac keyboard, but it's still annoying to look at.

Another minor irritant is the fact that wireless devices such as keyboards and mice need batteries. This doesn't bother me, but some people around the office refuse to work with something that runs out of power occasionally. My wireless mouse at home can last three or four months on a set of batteries, but some people have reported much shorter times. My advice is that next time you get to the checkout at the supermarket, grab a bumper pack of AAs and you won't have to worry about powering your mouse for a year or two.

Macworld's buying advice

The luscious keyboards and mice are very desirable, but they don't come cheap. The MWODEEE is £119 including VAT, which is a high price to pay – but consider how much you use your keyboard and mouse. I reckon I spend close to a thousand hours per year at my computers, so why not spend that time in luxury? I'm not sure I would go for the most expensive model, but the £99 MWODE would suit me fine (if I was right-handed).

As for the mice, I love the Wireless Optical Mouse 2.0, and at £39 I think it's worth every penny. If you were to go for the Explorer version with the extra buttons, the price jumps to £55, so you may as well get the keyboard as well. Whichever one you choose, you can't go far wrong.

David Fanning



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www.insight.com/uk

Apple's iChat AV software has made videoconferencing as easy as plugging in a cable and turning on your smile. To make chatting even easier, Apple released its own camera, the iSight, to work with iChat AV. But the iSight is the new kid on the block; FireWire Web cams have been around for a couple of years. So we wondered how the iSight would stack up against established products, notably Orange Micro's iBot Standard,

ADS Technologies' Pyro 1394 WebCam, and Unibrain's Fire-i.

We tested the cameras with an 800MHz iBook, a 1GHz Titanium PowerBook G4 and a dual-processor 533MHz Power Mac G4, with DSL, cable modem, T1, and AirPort (802.11b)

connections. We also evaluated performance under a variety of conditions. All of these cameras have video rates as high as 30 frames per second, capture video to applications such as QuickTime Broadcaster, and work out-of-the-box with iChat AV. The iSight outperformed the others in nearly every situation, but all the cameras performed well.

Smooth operators

None of the cameras' output comes close to DV-camcorder quality. But thanks to FireWire's much faster data-transfer rate, all of them produce smooth video far superior to the jerky USB and serial video of Web cams from a few years ago. The iSight's overall picture quality was

noticeably better than that of the other cameras. It almost always provided a sharp, crisply defined image and did the best job with movement and backlighting. The Pyro slightly edged out the iBot in image quality, but the two were closely matched. The Fire-i had the lowest overall picture quality, but it made up for this in other areas.

The iSight also had the best colour of the bunch, followed closely by the Pyro and then the iBot. All three of these cameras performed tremendously well in our informal colour tests. However, one of our testers, a film and video editor who uses iChat AV to connect to remote sets, noted that the iSight gave him the best sense of what a final shot would look like.

The iSight is the only camera with an autofocus feature, which is both good and bad. We liked the autofocus for its ability to focus on specific items, follow a moving object, and quickly change from an extreme close-up to a regular shot – particularly handy if you want to display a document during a chat. But it sometimes focused on the wrong area, such as the background when another person entered the shot from behind.

The other three cameras rely on manual focus, so users must twist the lens to change the focal length. Of these, the Pyro had the best quality at an infinite setting, while the iBot produced the best close-ups.

The only scenario where the iSight wasn't the top performer was in low light. In fact, the iSight's picture was noticeably dimmer than that of the other cameras. None of the cameras were exceptional in the dark, but the Fire-i was the best performer here.

Sound it out

When you're videoconferencing, it's easy to get caught up in seeing someone else on your computer, so you may forget that without audio, video is pretty useless. For the most part, Web cams have neglected sound. The focus has always been on the picture. Although the built-in microphones on many Macs will work for this task, the iSight's built-in microphone was an unexpected – and very pleasant – surprise.

A Web cam's microphone should be a tremendous decision-making factor



Orange Micro
iBot Standard

ADS Pyro 1394 WebCam



for people whose systems lack a built-in mic or mic input (for example, owners of the G4 Cube). Both of those configurations leave you tethered to your desk by a microphone cable – one with a minijack or USB connection – while the iSight gives you the freedom to move about.

The iSight's built-in microphone was dramatically different from any other in terms of sound quality, and it proved to be one of the camera's best features. In situations with ambient background noise, such as an industrial setting or a room with background TV noise, the iSight's mic cut down on those noises more than any other microphone setup. Although the mic works best when you're seated directly in front of it, we found that it outperformed the Mac's built-in unit even when we were moving around.

Performance tips

- Ideally, you want the light source in front of you and overhead. Fluorescent and bright light washes out colours and makes skin tones look wan. Natural light is best.
- Ambient noise, particularly if you're using your Mac's or iSight's built-in mic, can kill a conversation. Similarly, lots of movement in the background can pixelate the background or cause your camera to focus on the movement.
- Even at 30 frames per second, Web cams have problems with motion. You shouldn't expect DV-quality performance. Although you don't need to remain perfectly still, moving about quickly – particularly from side to side – will pixelate your image.

FireWire webcams compared

All prices include VAT.

COMPANY	PRODUCT	RATING	PRICE	OS	CONTACT	PROS	CONS
Unibrain	Fire-i	★★★★/7.7	£92	9 X	Channel Dynamics, 0870 607 0540	Great in low-light; compact; additional FireWire port.	Mediocre colour accuracy and picture quality.
Orange Micro	iBot Standard	★★★★/7.7	£88	9 X	Channel Dynamics, 0870 607 0540	Great picture quality.	Bulky; hard to position at eye-level; poor OS X software bundle.
Apple	iSight	★★★★/8.6	£119	X	Apple	Excellent picture quality; built-in mic; fantastic industrial design; best for "face-to-face" chatting.	Performs poorly in low light; no additional software.
ADS Technologies	Pyro 1394 WebCam	★★★★/8.3	£89	9 X	www.datavision.co.uk 01525 406 886	Great picture quality; best software bundle.	Bulky; hard to position at eye-level.

The extendAIR Direct antenna takes advantage of Apple's Extreme Base Station's Antenna port to extend the range of your AirPort network. Dr Bott claims that the £119 extendAIR Direct boosts the usable AirPort-enabled area to approximately 150 meters inside a 70° unidirectional "beam" of coverage. Our testing revealed this range to be reachable only under ideal conditions, but we found that the extendAIR Direct did improve signal strength at closer range.

The extendAIR Direct plugs directly into the antenna port on the high-end AirPort Extreme Base Station, and requires only a restart of the Base Station to be configured. The antenna is mounted on an adjustable base that can be either wall- or desk-mounted up to two metres from the Base Station.

Additionally, Apple's new Power Mac G5 features an antenna ports that works with extendAIR, offering G5 users an alternative should the G5's antenna be insufficient for their AirPort Extreme needs.

Perhaps due to the fickle nature of radio waves, we were only able to achieve Dr Bott's claim of a 150m range in an outdoor environment with no obstructions between the extendAIR Direct and our target computer. Radio waves are scattered or deflected as they pass through solid



objects, and the denser or higher in water content the object is, the weaker the signal on the other side. In a more real-world setting indoors, the antenna improved signal strength 25 to 50 per cent depending on distance – and more importantly the type of obstacle – between our test machines and the extendAIR.

Macworld's buying advice

With thoughtful antenna placement, we were able to achieve stronger signals and faster connections to our AirPort network. But don't expect to simply plug in the antenna, set it on a shelf, and get dramatically improved AirPort coverage.

Ben Long



Extend AirPort's range

extendAIR Direct

Manufacturer: Dr Bott

www.drbotting.com

Distributor: Channel Dynamics, 0870 607 0540

Pros: Easy to set up; provides an improvement in AirPort Base Station range.

Cons: Doesn't quite achieve the manufacturer's claims unless ideal conditions apply.

Min specs: AirPort Extreme with antenna port or G5.

Price: £139 including VAT.

Star Rating: ★★★★★/7.6

Zero configuration

A simple restart of the AirPort Base Station is all that's required to get the extendAIR Direct up and running.

You can also use the iSight as a standalone microphone for capturing audio; download QuickTime Broadcaster and change a few settings to capture iSight's stream to your hard drive. This works well for most amateur needs.

The iBot Standard comes in another edition, the iBot Pro (not tested here), which comes with a USB microphone headset.

The shape of things

In terms of aesthetics, the iSight is another industrial-design triumph from Apple. It matches PowerBooks and the new G5, and it happened to complement an aluminium trash can and paper-clip holder at our offices.

The iSight comes with three different stands, and it works equally well on a notebook, a flat-panel display, a CRT monitor, and an eMac. No matter which system you mount your iSight on, it will always point directly at eye level. This may seem trivial, but having the camera directly in your line of sight makes for a radically improved videoconferencing environment, as the face-to-face experience more accurately mimics natural conversation. Finally, the iSight's base rotates, for adjusting the camera's angle without unscrewing it.

Videoconferencing is often a mobile affair for far-flung travellers who use it to link up with distant home offices or loved

ones. So having a compact and safe way to carry your Web cam is important. The iSight comes with a snug-fitting, hard-plastic case for travel, and the whole lot fits neatly into the mobile-phone pouch in a laptop case.

Likewise, the minuscule Fire-i travels well – it fits into the same side pouch as a mouse. Conversely, the Pyro and iBot are rather top-heavy and oddly shaped, and neither fits well in laptop cases or comes with a protective carrying case.

The only other camera that comes with a mount designed for laptops is the Fire-i, which has a clip that can attach it to an iBook or PowerBook. The other cameras sit only at desk height, which may give your iChatting friends a good view up your nose. Meanwhile, the Fire-i's clip was clumsy when it wasn't attached to anything, and the Web cam was prone to falling over when the FireWire cable was jostled.

But the Fire-i has another FireWire port built into the camera – a boon for iBook users and anyone who has multiple devices to connect to a machine that has only one FireWire port.

Included software

All of these cameras work with iChat AV. If that's all you want it for, you don't need to install anything else. But if you want to do a Webcast or to videoconference with a Windows user, you need additional tools.

The Pyro has the best software selection of the bunch, with ISPD, a videoconferencing application that you can use to chat with Windows users; BTV, a great little video-capturing and -editing application; and Oculus, iVisit, ImageCaster, and PhotoShow – software for Web cams, videoconferencing, Webcasting, and slide shows, respectively. The Web-cam software is a nice addition; you don't get this capability with the iSight.

iVisit is great videoconferencing software for users of older systems that don't support iChat AV. The Fire-i has a nice software bundle, with ISPD and BTV. The iBot Standard also has a good selection of software for older versions of Mac OS, but it offers little for OS X, and it comes with only a trial version of BTV. (The iBot Pro comes with a software selection similar to that of the Pyro.) The iSight is the only camera that doesn't come with additional software.

Macworld's buying advice

In terms of overall quality, none of these cameras can touch the iSight, thanks to its excellent picture and sound capabilities and its industrial design. In terms of value, the Pyro's price, software bundle, and picture quality make it the best budget-conscious alternative. That said, all of these cameras are acceptable.

Matthew Honan

Any port in a storm

The Fire-i's extra FireWire port is great for those who have a machine with only one connection.



Unibrain Fire-i



Low-price 19" LCD

S962A LCD Monitor

Manufacturer: CTX
www.ctxeurope.com, 01923 810 800
Pros: Affordable; big screen.
Cons: No digital connection.
Min specs: VGA output.
Price: £492 including VAT.
Star Rating: ★★★★★/8.7

If you've been eyeing-up big LCD monitors with envy, but never quite had the funds to ditch your CRT monitor, the new CTX range might be just what you've been waiting for. The latest 19-inch LCD screens look a million dollars but are amazingly cheap at under £500 including VAT.

The low-budget screens don't have the all-singing, all-dancing features you might find on a more-expensive model, but the basics are all there. For example, there's no digital connection available. Digital connections are a good thing, but by no means an essential feature. The differences are more a matter of user friendliness than final image quality.

LCD screens are by their nature digital, while CRT screens are analogue. Because older computers have only an analogue connection, the first LCDs had to decode the analogue signals coming from the Mac and turn them back into digital information. This digital-to-analogue-and-back-to-digital process means that the resulting image needs to be adjusted to get the best results. Digital output fed into LCD screens with digital inputs need no adjustments.

Having an analogue connection means that this monitor needs adjustment, but there's an auto-adjust feature that makes it easy for the user. Once the

adjustment is done, the results should be on par with a digital model.

Despite having the auto-adjust feature, the monitor doesn't have a control for it on the front – so you need to go through some menus. If you can cope with that, then this screen is a bargain.

The resolution is 1,280-x-1,024 pixels and the visible screen area is 19 inches across the diagonal. This will compare favourably with a 21-inch CRT, and the results from LCD screens are always sharper than CRTs.

The colour and contrast also need adjusting, which you wouldn't expect from more-expensive models, but once done it shouldn't need much more adjustment in the future. So while the initial setup is fiddly, you only have to do it once.

The screen belies its bargain basement price. It's available in three colours – black, beige and silver – and the prices correspond to the colours. The beige model is the cheapest (and ugliest) at £469, black is £479, and silver £492. It does seem a bit much to charge extra for the black and



silver models, but presumably, CTX is working on low margins and every penny counts.

Macworld's buying advice

If you can't stretch to a Cinema Display, the CTX 19-inch range is great. Setup isn't perfect, it's no big deal in the long run.

David Fanning

Money talks

The CTX S962A will be perfect for those who can't justify splashing out on an Apple Cinema Display.



Innovative scanner

Scanjet 4670

Manufacturer: HP
www.hp.com/uk, 0870 547 4747
Pros: Looks great; scans slides; easy storage.
Cons: You pay extra for the cool looks.
Min specs: USB; Mac OS 9.1 or OS X 10.1.5.
Price: £179 including VAT.
Star Rating: ★★★★★/8.6

Scanners are a mature technology. They're boring, and they clutter up your desk. They sit on desks and get things piled on top of them until they're forgotten. That's how most people view them. The new Scanjet 4670 will change all that. It's great to look at, and easy to store. In fact, most observers probably won't even know it's a scanner.

The new design turns conventional scanning on its head by ditching the scanning bed altogether. There is a stand included, but the scanner itself is just like a clear glass picture frame.

The scanning head is sandwiched between the glass panes and it can be held over things that might have been awkward to get to the scanner bed. Instead, you take the scanner to the object.

The stand it sits in has two purposes: to store the scanner and to hold papers that are going to be scanned. While you aren't scanning, artwork can put in the stand and displayed as if the scanner were a picture frame.

Before you start thinking that the scanner is just a novelty item – all gimmicks and no power – it's a very capable 2,400dpi scanner. It's just a fortunate offshoot of the design that you can scan your cat with it.

The software supplied ties in with the buttons on the side so you can scan to various applications directly. It's all Mac OS X-ready, which is commendable, but I still find it a bit clunky.

In an effort to make things simple for beginners, HP has actually made it more difficult for the rest of us, with few obvious controls for more-advanced features.

HP supplies a transparency adaptor, so you can scan 35mm slides. OCR software is also included for getting text files from printed documents. It has everything a consumer or small-business audience could want.

Macworld's buying advice

You could easily get a scanner with these specifications but without the cool styling cheaper. So it comes down to how much you value the features of the frame-style model.



It certainly makes it easy to scan large objects in parts, so there's some justification to pay the extra if you have particular needs. On the other hand, if you've bought a Mac already, then you'll be used to paying a little extra for a thing of beauty.

David Fanning

Scan-tastic

A new concept in scanners: the Scanjet 4670 looks great, doesn't cost the earth, and you can scan pretty much anything you like with it.

Forget that 2-megapixel digital cameras ever existed. The new battleground of consumer photography is in the 3- and 4-megapixel space, and it's here that you should look if you want to find the most tempting balance of features, performance and price.

We decided to look at three representatives from the 'value-for-money' end of this blossoming market: the 3.2-megapixel Olympus Mju 300, which was launched earlier in 2003; Ricoh's 3.2-megapixel Caplio G4; and Konica's 4-megapixel KD-420Z, both launched late this summer.

They cost between £200 and £250 (including VAT), which sounds cheap by digital-camera standards. But with cheaper 4-megapixel models bearing down on them, don't be surprised if the 3-megapixel cameras reviewed here cost nearer to £150 by next summer.

The **Ricoh Caplio G4's** main claim to fame is supposed to be its fast 0.14 shutter response – but that's only one element of a camera's performance. It turns on at about the same speed as many cameras – around three seconds (Rico claims 1.8 seconds) – and takes a geriatric six seconds to save shots to memory. Flash cycle time about four seconds – about the same as the Olympus and Konica.

The camera's real strength is its lens. It features an astounding macro feature that lets you get sharp pictures down to about 1cm, something no other compact comes close to rivaling. The basic G4 comes with a 3x zoom (35-114mm) and there's also a groundbreaking 28-85mm wide-angle option – the G4 'Wide' – ideal for landscape photography enthusiasts or those seeking enhanced depth of field.

The camera comes with 8MB of memory, leaving you with an empty SD-card slot to fill if you want to take more than five images at highest resolution. Buying a set of rechargeable AA batteries is essential as you only get puny alkalines in the box.

Sensibly, Ricoh puts exposure compensation on a dedicated button rather than buried away in a menu – a useful feature, as the camera's metering is sometimes wayward in bright or high-contrast conditions. Other general niggles include the rather unflattering plastic bodywork and a distractingly noisy zoom.

Ricoh Caplio G4



Olympus Mju 300

The G4 is an eccentric mixture of the inspiring and the flawed. If you want point-and-shoot, it'll do a good job. If you want control over your shots, it'll let you do a fair amount of that, too. Nonetheless, we suspect the G4 is really a stop-gap before greater things.

The **Olympus Mju 300** is slicker than the Ricoh without excelling in any particular area. Everything about it is geared towards keeping the casual snapper happy. It is small and light enough to pocket or hang around the neck. Having a sealed aluminium 'all-weather' (water- and grit-proof) body suggests durability. Most of all, it takes decent natural light and flash pictures without being complicated to use or keeping you waiting between shots.

Technology counts

The caveat is that the Mju won't exactly unleash a creative tidal wave. There's an enduring myth that timeless pictures can be taken on ten-bob Box Brownies, but for the vast majority of mortals, technology still counts. You need control for a start, and the Mju doesn't give you much of that.

You can choose from a number of basic exposure settings, and can vary metering to spot or evaluative. That's about it. No ISO film setting (it automatically selects from 80 to 320) no manual exposure mode of any description, and a lens that stops from f3.1 to f5.2. Setting white balance means choosing one of four presets.

You do get a 3x optical zoom (38-105mm equivalent), a bright LCD display and a rechargeable, long-lasting Lithium-ion battery (and charger). Cycle time between shots at top resolution is brisk, and the camera is responsive enough

to at least remind you of an analogue camera.

Konica's **Revio KD-420Z** is the smallest and neatest of the cameras looked at here, a compact, well-made little box clad in tough-looking steel. It turns on like a mobile phone – with a celebratory 'bong' – firing itself up to

readiness at unusual speed. It is the most responsive of the three, zooming in and out rapidly and accurately, leaving the user free to compose and shoot. Focusing is accurate thanks to the inclusion of an assist light.

Curiously, the Konica takes two types of memory card – SD and Sony's Memory Stick. This is promoted as a feature, though it's hard to see the advantage of supporting two memory formats at the same time. You get a 16MB SD card to start you off. There seems no point in moaning about the inadequacy of this, as every digital camera on the market suffers from the same issue.

With a 4-megapixel CCD, the Konica scores over the other two in image quality, but not significantly so – picture quality on all three is decent. A helpful convenience is the ability to zoom in extremely close when viewing an image in playback mode – a good way of quickly checking for problems with focusing and camera shake.

Despite looking like a point-and-shoot model, the Konica offers a good degree of control, including a manual exposure mode. ISO sensitivity runs from 50 to 500. As with the Olympus, a Lithium-ion battery and charger are included in the price.

Macworld's buying advice

Which of the three would we buy? All take decent pictures, but the Konica stands out mainly because it comes closest to matching the handling experience of a conventional 35mm film compact. That is the next important milestone for digital photography, and the Revio is evidence that it's finally coming close to being reached.

John E Dunn



3-4mp digital cameras

Ricoh Caplio G4/Wide

Manufacturer: Ricoh

www.ricoh.co.uk, 01782 753 300

Pros: Wide-angle lens option; amazing macro performance; fast shutter response.

Cons: Disappointing file-write speeds; sluggish/noisy zoom; no rechargeable batteries supplied.

Min specs: USB.

Price: £199 including VAT.

Star rating: ★★/7.0

Olympus Mju 300 Digital

Manufacturer: Olympus

www.olympus.co.uk, 020 7253 2772

Pros: Durable; all-weather 'sealed' body; responsive; reliable picture quality.

Cons: Lack of manual controls; zooming is jerky.

Min specs: USB.

Price: £299 including VAT.

Star rating: ★★★/7.5

Konica Revio KD-420Z

Manufacturer: Konica Minolta

konicaphoto.co.uk,
020 8751 6121

Pros: Blindingly fast; takes SD and Memory Stick cards; rugged.

Cons: Menus can be a fiddle.

Min specs: USB.

Price: £249 including VAT.

Star rating: ★★★★/8.2

Konica Revio KD-420Z





Cubase SX 2.0

Publisher: Steinberg

www.steinberg.de

Distributor: Arbitr

020 8970 1909

Pros: New features such as Stacked Cycle Recording to facilitate multiple takes and the Time Warp tool to match MIDI to audio.

Cons: Needs a fast CPU for best results.

Min Specs: 867MHz G4; 384MB RAM, Mac OS X 10.2.5.

Price: £570 including VAT.

Star Rating: ★★★★★/8.8

Assemble the perfect take

Stacked Cycle Record Mode works with both MIDI and audio tracks. Each cycle lap is turned into an audio event. The track is divided into lanes, and events are stacked, each on a different lane.

This makes it easy to assemble a perfect take.

Hot on the heels of Nuendo 2.0, Steinberg has released Cubase SX 2.0. The interface has been revamped to fall more closely in line with Nuendo 2.0, and most of Nuendo's technical features have been incorporated.

It now uses the same audio engine as Nuendo 2, with its all-important plug-in delay compensation and support for up to six audio channels for surround sound. OMFI file compatibility has been added – so you can exchange projects between Cubase SX and Pro Tools, for example. And to compete with Logic, a Freeze function has been added for virtual instruments.

The user-interface can be customized. You can change the contents and look of several sections and panels, including the Transport panel, toolbars in the Project window and the editors, and the track controls in the Track list. Unwanted controls and settings can be hidden, and users can change the order of items on the panels.

The new Time Warp tool can be used to create a tempo map that fits a recording – or to match positions in a video with positions in the music. Just drag a bar-line to line it up with a downbeat. The Tempo track now has a Tempo Record slider. Move it during playback to write Tempo events into the Tempo track.



Macworld's buying advice

What does Nuendo have that Cubase SX doesn't? In a nutshell, all the extra features for professional post-production. These include Sony nine-pin machine control to run pro VCRs in sync, more-advanced

surround features, child busses in the VST Connections window, and more powerful crossfade capabilities. If music production is your game, you won't miss these features – so Cubase SX will serve you well.

Mike Collins



MachFive Sampler

Publisher: Mark of the Unicorn

www.motu.com

Distributor: Music Track

01767 313 447

Pros: Universal sampler that works with all host platforms.

Cons: Buggy behaviour in Cubase SX 2.0; needs a fast CPU for best results.

Min Specs: 800MHz G4; Mac OS 9 or OS X 10.2;

suitable host application such as Digital Performer, Pro Tools, Logic, Cubase or Nuendo.

Price: £295 including VAT.

Star Rating: ★★★★★/8.2

Action Five

This MachFive window shows the File Browser (top left), the Parts section below this, the Display area (top centre), the Keygroup parameters (lower centre), the Master section (top right), the Part parameters below this, the LFO section below this and the Effects section at the bottom.

MachFive claims to be the first universal software sampler, as it supports every major audio platform on both Mac and Windows (MAS, VST, Audio Units, HTDM, RTAS and DXi).

The idea is that you can effortlessly move from one platform to another – or collaborate with colleagues who use different audio software.

MachFive is 16-part multitimbral, so one insertion may be needed – with up to 16 MIDI tracks in the sequencer playing back the different parts. You can set a different output for each part into the mixer when using Digital Performer as the host, so effects can be added and levels balanced between parts using different mixer channels. Cubase, Nuendo and Logic for Mac OS 9 provide eight outputs. Logic for OS X and Pro Tools provide only two – so the sounds from all the parts are mixed together into stereo. You can add effects and balance sounds within the plug-in, but if separate outputs are needed, it means using separate instances of the plug-in.

MachFive is much more than a sampler; it's more like a top-flight synthesizer with sophisticated filters, envelope controls, LFOs and modulation options. Editing and performance parameters are presented in a single window, and samples can be dragged directly from the desktop or host tool to MachFive's keyboard to create key groups. MachFive's waveform editor can truncate, normalize, fade and otherwise manipulate



samples in the central display area. The effects section lets users add effects to each multitimbral part, as well as up to four global aux effects and four master effects – choosing from the dozens available.

MachFive comes in six-, four- and two-channel versions, and accepts samples in all formats from mono to 5.1. There's plenty of polyphony – up to 128 notes with the fastest CPUs – and you can set the polyphony for each part. MachFive supports 24-bit audio at up to 192KHz, and high-resolution samples can be used at lower

sample rates – so go ahead and sample at 96 or 192KHz. A key feature is support for GigaSampler and all other major formats.

Macworld's buying advice

I encountered bugs in Cubase SX 2.0, but everything was fine in Pro Tools. Digital Performer let me use more tracks without breakup. I buy the idea of using MachFive on different hosts, as I regularly work many, and it's a pain swapping between the EXS24, Kontakt, Halion and SampleTank.

Mike Collins

Wandering the aisles Dixons lately, you may have noticed that the flat-panel TV section is almost as big as the old CRT section. If, like me, you don't have the cash for a flat-panel TV but already use an LCD with a Mac, Miglia has a perfect solution. Using the Alchemy TV card, it's possible to watch TV on your Mac.

The ability to have a TV tuner on my Mac isn't one of those things that I've been champing at the bit for – but watching TV is only part of the allure of the Alchemy TV card. There are lots of practical uses for it.

The way it works is straightforward. You install the card in an empty PCI slot, so you'll need a Power Mac. It has six connectors: RF-in, radio, composite video, audio-in, S-VHS-in and audio-out. The first two are where you plug in your aerials, which you'll need to do to get a picture or listen to the radio. The rest (with the exception of the audio-out) are for connecting analogue video sources such as VCRs, camcorders or games consoles.

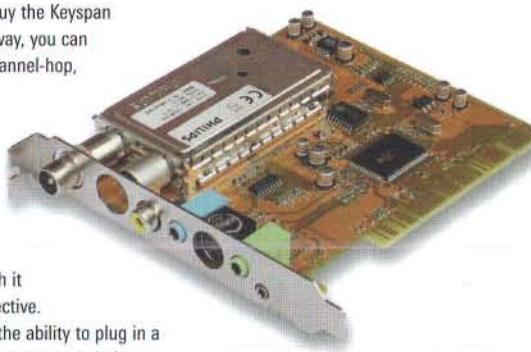
The software is basic – a TV tuner that can record to hard disk. But it can

be enhanced if you buy the Keyspan remote control. That way, you can sit on the sofa and channel-hop, just like on a real TV.

That covers the TV thing – you can watch it in a window or full screen. But there are more practical things you can do with it from a creative perspective.

A major bonus is the ability to plug in a VCR and record your tapes to a digital format. That means you can get your old fading wedding video on to DVD, which could be worth the price in itself. You can also record TV, which might be good if there's something you want to keep in a less fragile format than VHS. So if you're appearing on Stars in Their Eyes, it might be a good investment (if you want to remember it, that is). Recording radio to MP3 is also a possibility, though I'm struggling to find a reason to do that.

There's a piece of third-party software available that lets you use an analogue



video camera and the AlchemyTV card with iChat. Perhaps not a reason to buy the card alone, but with the other benefits, it all starts to look like a good buy.

Macworld's buying advice

The AlchemyTV card is a versatile piece of kit; most people will find at least a couple of uses for it – and it's an appealing add-on for a desktop Mac. I can see these flying off the shelves when Euro 2004 rolls around.

David Fanning



Alchemy TV

Manufacturer: Miglia

www.miglia.com

Distributor: AM Micro,

01392 426 473

Pros: Handy for all kinds of things – not least watching Euro 2004 at work.

Cons: No digital channels unless you have a separate box.

Min specs: PCI slot; OS X.

Price: £82 including VAT.

Star Rating: ★★★★★/8.5



Retrospect Backup 5.1

Publisher: Dantz Development

www.dantz.com

Distributor: Computers Unlimited,
020 8358 5857

Pros: Good value; high-quality software; Mac OS X boot-&-restore CD; extended support for CD/DVD drives.

Cons: Non-standard folder navigation and selection; confusing multi-window interface.

Min specs: PowerPC G3; Mac OS 9 or Mac OS X 10.1.2.

Price: Desktop, £94, upgrade £43; Workgroup, £365, upgrade £74; Server £586, upgrade £116.33.

Prices include VAT.

Star rating: ★★★★★/8.4

Reading about data backup might be as interesting as watching paint dry, but actually doing backup is as much fun as listening to that paint as it dries. People also put off backup tasks because they take time and need the occasional poking with a software stick. The Dantz answer is to make preparing backups as quick and painless as possible, and to streamline the actual backup process so it runs without intervention – even unattended.

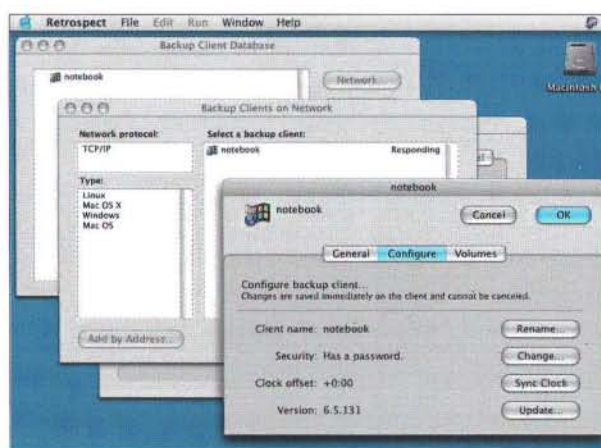
Retrospect Backup 5.1 is a minor upgrade to the Mac platform's best-selling backup utility software. It lets users indicate multiple sources and multiple locations per

source per backup, and arrange as many different concurrent backup sets as you wish. Backups can be complete – even a direct volume-to-volume copy – or progressive with date synching. Best of all, the utility supports network and even Internet-based client computers, so you can conduct Retrospect routines on a Mac that backup data from a variety of connected devices, including Windows and Red Hat Linux machines.

The product is sold in three packages: Desktop (for backing up your Mac and two other connected client computers), Workgroup (20 clients) and Server (100 clients). However, the core Retrospect Backup program itself is the same, letting you add extra clients as they're needed.

New in version 5.1 is extended support for more CD and recordable-DVD drives. Also new is the installation CD which doubles as a Mac OS X boot and restore disc, saving you the not inconsiderable trouble of writing your own. Unfortunately for Mac OS 9 users, there's no Classic boot mode on the CD, but virtually all G3 Macs should be able to start up in Mac OS X from that CD in order to run the restore sequence. Our tests confirm that Retrospect restores are reliable and thankfully uncomplicated to conduct. The program does what it you expect of it, and does it extremely well.

The only problem is that the old Retrospect interface needs a makeover if it wants to look friendly on-screen to beginners and backup-phobes. Setting up new backup routines or configuring existing ones tends to spill out into lots of small



windows, and it's easy to forget where you are or how you got there. It isn't possible to browse a Mac and network clients using the standard Mac OS X File Open dialogs – users are forced to dance back and forth between multiple windows by clicking on mysterious 'Subvolume' and 'Define' buttons.

Macworld's buying advice

Retrospect Backup deserves its high reputation for effectiveness and reliability. While this upgrade is only a minor improvement on version 5.0, it's valuable just the same and a no-brainer purchase for anyone serious about not losing their data. Beginners will need to struggle past Retrospect's strange interface, but once you're there, Retrospect is easy enough to use.

Alistair Dabbs

Client configure

Install the Retrospect client software on any TCP/IP-connected computer, and your copy of Retrospect Backup will see it immediately



User-friendly 3D tool

Carrara Studio 3.0

Publisher: Eovia www.eovia.com, 01483 797 498

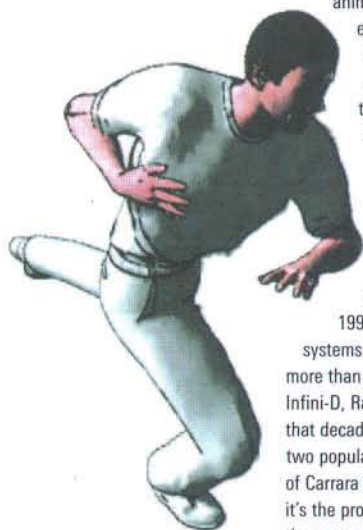
Pros: Excellent documentation and Web-based support; physics engine; feature-laden; easy to use.

Cons: Processor-intensive and RAM-hungry; dated particle systems; renders the Dock unusable.

Min specs: 266MHz G3; Mac OS 9.2.2 or OS X 10.1; 128MB RAM; Internet connection for Web-based support.

Price: £372 including VAT.

Star rating: ★★★★★/8.8



Special branch

Carrara's new TreeMaker creates realistic trees and plants that compare favourably with dedicated tree-making programs.

Over recent years the 3D landscape has changed considerably on the Mac platform. The 2001 release of 3D heavyweight Maya, followed by a radical price reduction of that software a year later finally gave Mac users the opportunity to get their hands on some serious 3D firepower. Maya's long-awaited debut also had a knock-on effect for other 3D program developers, who, as well as lowering their prices, were forced to bring their own software up to speed.

Things have never been healthier in the 3D world for Mac-based designers. There's now a wealth of 3D programs available for the Mac, offering an impressive range of high-end features at prices that won't break the bank – leaving Carrara Studio 3.0 in a strong position.

Now into its third incarnation, Carrara Studio is a powerful 3D program that boasts advanced modelling capabilities, intuitive animation with built-in physics engine and a selection of rendering engines that put many more-expensive packages to shame. Those with long memories will recognize some of Carrara Studio's features. Its room-based metaphor, for example, is directly ported from Ray Dream Designer, a mainstay of the Macintosh 3D platform throughout the 1990s. The program's particle systems and overall ease of use bear more than a passing resemblance to Infini-D, Ray Dream's main rival during that decade. The best features of these two popular old-timers form the backbone of Carrara Studio 3.0. But, inevitably, it's the program's interface that provokes the most comment.

Carrara Studio's interface is the Marmite of the 3D world. If you're Poser or Bryce 3D user, you'll feel at home with Carrara. But if you're new to 3D modelling you may find the program's unique organic look – inherited from Carrara's previous



Logo-making

Simply substitute a scene wizard logo with one of your own, or map your logo onto a bottle, perhaps (inset).

developers, the Kai Krause-inspired Metacreations – to be an unnecessary distraction. This is a pity because Carrara Studio is aimed squarely at the 3D novice who wishes to learn the trade without having to clamber up too many steep learning curves.

There are plenty of alternatives to Carrara Studio out there. But what sets this program apart from the rest is its ability to have you up and running in a short time. Even without any prior 3D skills, the user is able to quickly churn out 3D logos, landscapes and packaging designs like a pro. This is made possible by Carrara's extensive range of screen wizards, which automatically set up fully lit 3D scenes that can be easily customized. Screen wizards are just one of some 400 new features that the program's developer, Eovia, claims to have introduced to Carrara Studio 3.0.

Rooms for improvement

Upon launch, Carrara Studio is split into five 'rooms', each dealing with a separate aspect of the 3D design process. The Model room lets users manipulate primitives, splines, metaballs and vertex objects; the Texture room lets you create multiple layered textures for models; the Storyboard room is for previewing and tweaking individual keyframes to build up complex animations in a manner once again very reminiscent of Infini-D; while the Assemble room lets you arrange, position and light models.

There's a lot of raw power in Carrara Studio. And if you can get used to the interface, you can achieve results that rival more expensive packages such as Cinema 4D and LightWave.

Carrara's rendering capabilities are not to be scoffed at, either. In addition to traditional Phong and Gouraud draft output modes, the program's raytracing

engine has been upgraded to include true soft shadows, HRDI, alpha-channel rendering and improved support for global illumination. These are high-end features at a low-end price that result in images almost indistinguishable from photographs – something you would have had to pay an arm and a leg for not so long ago.

Eovia has obviously been busy since the last upgrade to Carrara less than a year ago. Among other notable improvements and additions to Carrara are a Tessellation tool, a Crease tool and a Dynamic Extrusion tool in the modelling toolset; a new UV editor for complex texture mapping; a tree editor which, although a little RAM hungry, creates realistic-looking plants; and several new non-realistic rendering modes that can output images as paintings or cartoons.

As is traditional with new upgrades to Carrara, the program comes with a few bugs. In complex models, there's significant system slowdown, as well as redraw problems in some of the menus in the Model room. But this is just nit-picking really, because Eovia is to be congratulated for producing a piece of 3D software that's edging ever closer to the big boys. No bones about it (although the program does, of course, include bones), this significant upgrade is well worth the £372 price tag.

Macworld's buying advice

Carrara Studio 3.0 is an excellent way to enter the 3D design world. It has hidden depths, ideal for the novice who needs to be led by the hand through techniques that are just plain scary in other 3D packages. Moreover, Carrara Studio is fun to use – a quality often overlooked by rival developers. I like this program a lot. And I'm pleased that Eovia has chosen to keep alive the quirky ethos of Kai Krause – the man who back in the early 1990s gave us the ground-breaking Kai's Power Tools.

Ian Probert



LaserSoft Imaging has won great acclaim for its excellent scanning software, SilverFast Ai, which is pretty much the industry standard when it comes to optimizing scan quality.

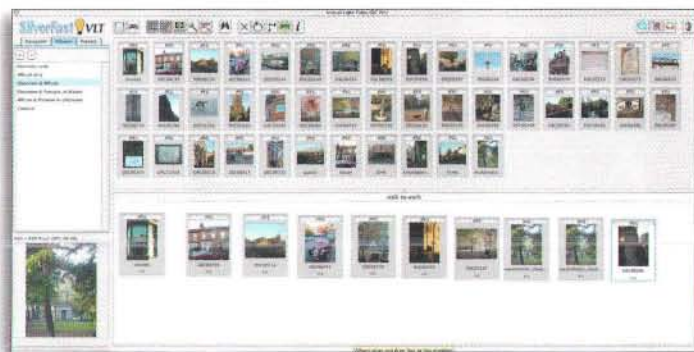
With SilverFast DC Pro, the company has turned its attention to digital cameras, offering a means for photographers to edit RAW-format files.

RAW files are essentially digital negatives, because they are what the digital camera's CCD (Charge-Coupled Device) sees without any processing. When shooting in anything other than RAW (JPG or TIFF, for example) it's the camera that determines white balance, among other settings.

One thing about DC Pro that I disliked intensely is that it looks and feels hurried. Essentially LaserSoft Imaging has taken its excellent SilverFast Ai 6 and bolted DC Pro onto it. Not only is DC Pro cluttered with SilverFast Ai 6 scanning functionality that has simply been disabled, but the manual isn't a DC Pro guide at all; it's an in-depth walk-through of SilverFast: finding DC Pro content involves an insane degree of index-trawling, and for a good time I thought that the company had put the wrong manual in the box.

One of DC Pro's key features is Virtual Light Table (VLT). This provides the user with the means of viewing, organizing and managing digital assets in albums. VLT also provides image-correction tools, such as red-eye removal, colour correction, and exposure adjustment. It is, essentially, a reworking of Photoshop's File Browser.

While VLT is undeniably useful, it's inferior in some cases to File Browser. For example, files are searchable by name only, whereas in File Browser files can be



Virtual reality

A key feature of DC Pro is Virtual Light Box, a digital-assets management tool similar to Photoshop's File Browser.

searched by resolution, creation date, file type, copyright and even colour profile.

Although DC Pro includes an IT8 colour target, this seems to be another Ai 6 legacy. Profiling a scanner with a colour target makes real sense, but most professional photographers would agree that doing so with digital cameras is a real headache, as you can't meaningfully create a single profile for a camera. At best, you could use the supplied targets to build a series of profiles for typical shooting conditions. However, given DC Pro's feeble white-balance controls, I'm not sure what the point of this would be.

Macworld's buying advice

I'm genuinely baffled by DC Pro; the product leaves me with a strong feeling that the folk at LaserSoft somehow got wind of Photoshop CS' bundled Camera Raw feature and improved File Browser, and decided to offer something to rival these elements.

However, at €299, SilverFast DC Pro is far from frivolously priced, and Photoshop aficionados have little reason to buy it: those using Photoshop 7 can buy the excellent £78 Camera Raw plug-in, or spend £125 on upgrading to Photoshop CS, which offers Camera Raw built-in, as well as piles of other photography features (not least of which is photo-stitching.)

This seems to leave a target audience comprising non-users of Photoshop – yet I find it hard to believe that anyone who is serious about digital photography would elect to ignore Photoshop

Sean Ashcroft



SilverFast DC Pro

Publisher: LaserSoft Imaging

www.silverfast.com

Pros: Can edit RAW files.

Cons: Poor white-balance controls; expensive; product looks and feels like an afterthought.

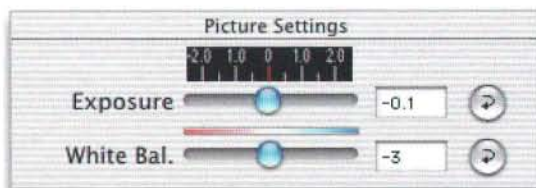
Min specs: Mac OS 10.1; 256MB RAM.

Price: €299.

Star Rating: ★★☆☆/5.5

RAW deal

The most important change one can make to a RAW file is to set the white balance, yet DC-Pro's control is crude. White-balance control in Photoshop CS now offers Camera Raw as a built-in feature. Camera Raw offers intelligent white-balance control, including Temperature and Tint sliders, as well as a drop-down menu containing common lighting conditions.



Whisper it, but Jonathan Ive isn't quite the impeccable design guru of myth. We had an inkling of it with his awful hockey-puck mouse – and it has now been confirmed by the Ive-inspired Cinema Display LCD monitors.



Yes, they may look beautiful. But Cinema Displays are triumphs of design over content; of aesthetics over practicality.

Why so? Because unlike virtually every other LCD screen out there, Ive's one-height displays aren't adjustable, meaning that if this one height doesn't suit your working conditions – and you end up in a neck brace, or suffering from RSI – then tough.

I found this out the hard way. Moments after unpacking my workplace 20-inch Cinema Display I found myself looking for a way to raise it, because it was far too low relative to my optimum chair height, and meant my viewing position was like that mirror-pose people do when checking how big their double chin has grown.

I was aghast, because I could tell that this £1,049 monitor would end up crippling me. My first solution was crude: lifting the screen by sitting it on three shrink-wrapped bundles of old Macworlds.

But then one of my colleagues discovered a product called CinemaLift – a hydraulic metal arm that suspends

the Cinema Display above the desk. It's adjustable through 360 degrees, and offers a screen-tilt of 200 degrees – and the arm can be either clamped on a desk or wall-mounted. Both types of bracket ship in the box.

Macworld's buying advice

The CinemaLift looks undeniably cool and it has undoubtedly saved me from the clutches of a chiropractor. I have nothing but praise, both for it and its makers.

However, had it been me instead of my work that had bought a 20-inch Cinema Display, I'd've been incandescent with rage. Why should anyone who's forked-out over a grand on a monitor be expected to find a further £175 because it's ill-designed?

Cinema Display owners who are suffering back spasms should buy a CinemaLift, or at least find a pile of old magazines. However, for such unfortunates it's too late for my best advice: don't buy a Cinema Display.

Sean Ashcroft



CinemaLift

Publisher: LCDArms

www.lcdarms.com

Pros: Makes the Cinema Display ergonomic.

Cons: Should be unnecessary.

Min specs: Cinema Display.

Price: £175 (excluding VAT).

Star Rating: ★★★★★/8.0



Readiris Pro 9

Publisher: Iris www.irislink.com

Distributor: Widget,
0800 138 1639

Pros: Takes the work out of retyping documents.

Cons: A little interaction is needed to get the best results.

Min specs: PowerPC;

Mac OS X 10.1; OS 9.

Price: £82. Special Macworld

reader upgrade offer

from version 7.0, £69.

Prices include VAT.

Star Rating: ★★★★★/8.6



Iris and Macworld offer all readers a free version of Readiris Pro 7. You'll find it on the second CD, along with a demo of Readiris Pro 9.

The result

Presto! Out pops a formatted Word document (or HTML, PDF or .txt document).

Sometimes documents arrive in the wrong format. If it's a Word document and you don't have Word, then it isn't such a big deal, but if it's a fax or printout, then you're in real trouble. It can be frustrating in our email-based world to have to re-type documents to get them into a useable format. The answer to that particular problem is OCR – and in particular, Readiris Pro 9.

OCR has been around for a long time. In fact, years ago whole machines were built just to scan and process typed (on a typewriter) documents. In those days, when the average PC or Mac had less than a megabyte of RAM, desktop OCR was barely thought of. Now you can pick up a scanner for under £50, and be scanning documents into text with ease.

When you have Readiris installed, you may need to reinstall your scanner drivers so that the plug-ins are available to the application. Any TWAIN or Photoshop plug-in can hook into Readiris, so any scanner should be compatible. Once the software is able to see the scanner, the user tells it how to deal with the scanned documents. Text files can be produced as .txt, .rtf, .html or .pdf files. The application will then trigger your choice of reader to open the document.

In practice, we tested Readiris Pro with a number of increasingly difficult documents, starting with simple text pages in the same font, to mixed media pages with different fonts, images and columns.

The initial tests were passed with flying colours. Accuracy was excellent, only faltering when confronted with



The process

Readiris automatically orientates the image correctly, recognizes columns and graphics, and converts them to text.

scribbles or smudges. Just as impressive was the speed – pages were processed in seconds – a far cry from when I last looked at OCR software.

Simpler pages were processed in automatic mode, leaving all the judgements and adjustments to the software. When we moved to more-challenging pages, Readiris was able for the most part to recreate the pages in .rtf format. The recreated pages weren't identical to the originals, but this is more of a limitation of the format than the OCR software. It was slightly better when output was set to HTML or PDF, but these formats are less suitable for editing.

Readiris uses four fonts to recreate pages. It also emboldens and italicizes to match the original page. Four fonts may not seem like many, but it's enough to have two serif and two sans-serif fonts. This helps recreate pages without adding dozens of fonts, and gets close enough. Occasionally you may find a sans serif font in a serif paragraph, or point sizes changing in a sentence, so some tweaking may be required when recreating pages.

But compared to the challenge of laying out a whole page and typing it in, Readiris Pro is a lifesaver.

Readiris does other clever things that you may not notice at all. For example, older OCR packages were easily baffled by slightly slanting text. This is automatically taken care of by Readiris when the de-skewing feature is turned on. Similarly there is a de-speckle option for dealing with grainy originals. Possibly the best timesaver is the automatic orientation detection. Usually when you put a sheet on a scanner, it isn't obvious which way up it should be. Upside-down pages usually come out as gobbledegook with OCR packages, but orientation detection takes care of that.

If the results you get aren't quite what

you're after, it's simple to go back and tweak things to get better results. One thing we found was a tendency to read some small images or icons as letters. This results in garbled text in the document, so it's better to go back to Readiris and tell it that the element is a image rather than text. It means the process isn't entirely automatic, but it gets results that are much more useable, so saving time in the long run.

Readiris Pro boasts excellent language support, but unfortunately support for Unicode in OS X differs from OS 9. While the operating system supports Unicode, it relies on individual applications to implement it. In OS 9 Unicode was handled by the operating system, so languages worked well. Language support is now much more patchy, and for the purposes of OCR only Latin alphabet languages work properly in OS X. The boffins at Iris tell me that although Readiris can recognize 104 languages, there are system issues that complicate getting the languages out again in OS X. If you want multilingual support, you may have to use Readiris in OS 9.

Macworld's buying advice

If you habitually re-type documents then OCR is a must – and the latest Readiris Pro is about as good as you'll find. I can't say that it's perfect on all documents; nothing is. But on simple documents it rarely falters. It's only on more-complex documents that results are less acceptable. A little care and attention will keep even the busiest documents close to perfect.

It's a shame that the language support isn't as all encompassing as on the Windows version, but it isn't down to any failure on the part of Iris. As long as foreign languages use a Latin alphabet, there should be no problem.

David Fanning





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Professional Font Library 1000

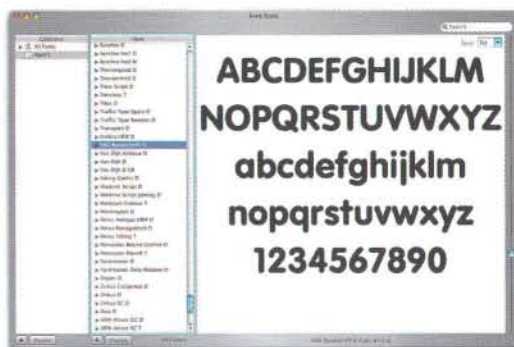
Publisher: The Type Marketing Company
www.type-marketing.net,
 01242 252 095
Pros: Huge selection of familiar fonts.
Cons: Some fonts are a bit too familiar.
Price: £139 excluding VAT.
Star Rating: ★★★★★/8.4

Handwriting Fonts

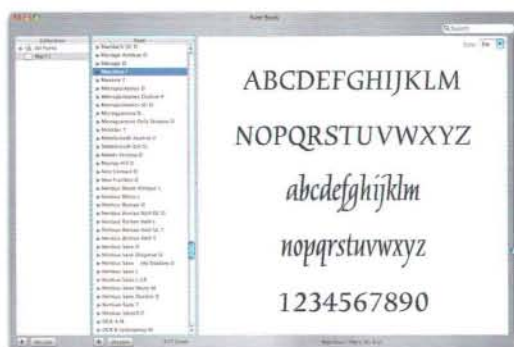
Publisher: The Type Marketing Company
www.type-marketing.net,
 01242 252 095
Pros: A giant collection of handwriting examples.
Cons: Some examples are worse than my own (awful) handwriting.
Price: £149 excluding VAT.
Star Rating: ★★★★★/8.3



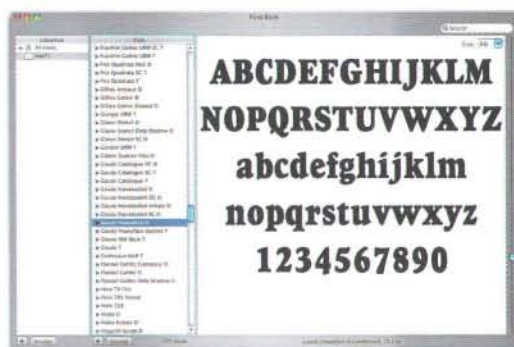
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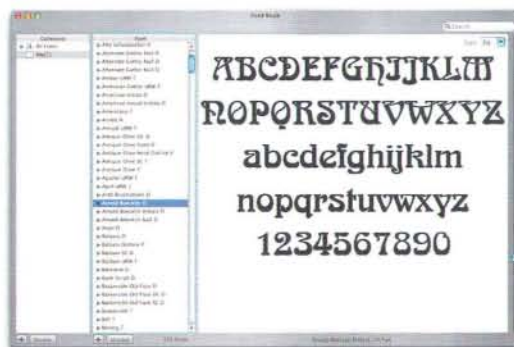
VAG Rundschrift



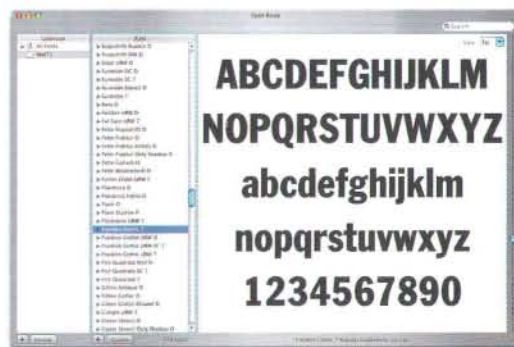
Mauritius



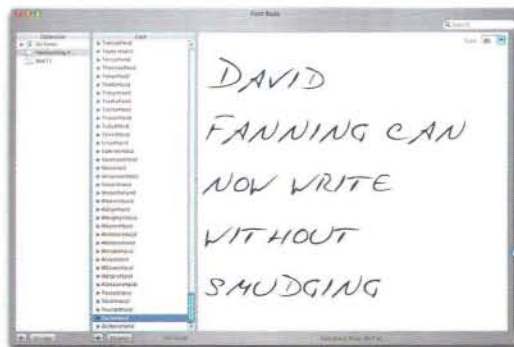
Goudy Heavyface



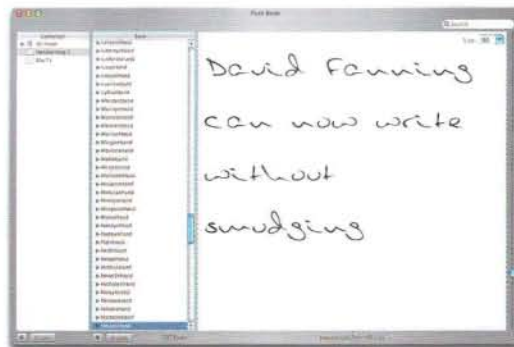
Arnold Boeklin



Franklin Gothic



Zack's Hand



Novia's Hand

The write stuff
 Handwriting is a well-used design style. But if like me your arty left-handedness means that you write like a drunken doctor, the Handwriting Fonts collection is for you. There are 300 to choose from, though you may only ever need half a dozen. Just about every style is represented, including some that would pass for that of a drunken doctor. For a limited time, you can get both collections for £259 plus VAT from the Type Marketing Company.

There was a time when fonts were excitedly traded by pirates. The reason for the frenzied trading was twofold: fonts were expensive, and DTP was the cutting edge of creative technology. Now, the price of fonts is drastically reduced – and collections like the

Professional Font Library 1000 cost less than £150. Don't think, though, that the low price denotes a collection of novelty fonts. The fonts in this collection are the useable faces that will come in handy on a daily basis. There are plenty of old favourites too, such as Franklin Gothic, Goudy Heavyface and

Arnold Boeklin. Of course, they're old favourites with me, but I'm fairly sure Arnold Boeklin has fallen out of vogue now. Whatever you think of the oldies, there are enough modern fonts of excellent quality to make this a great purchase for any designer. **David Fanning**

How would you feel if a sinister agency implanted an adamantium skeleton into your body and endowed you with various powers including retractable blades that shoot out of your knuckles? It might sound kind of cool, but the novelty would soon wear off. Imagine going to the loo while you were getting used to your Freddie Kruger blades. Anyway, that's roughly what happened to Logan — better to known to us as Wolverine.

I still don't quite get the Wolverine name, I can't help thinking the guys at Marvel (after a long night in the pub) tried to find a new animal-based superhero. Bats and spiders worked well, so why not that other fierce creature of the wild. Yes the majestic wolverine, well not exactly majestic, more like a weasel on steroids.

If you aren't familiar with the *gula gula*, to give it its Latin moniker, it's a member of the weasel family, and looks quite cuddly. However, it's a carnivore with a badass reputation, and weighs up to 50lbs, which is about the weight of a G5. So if you can imagine being savaged by a G5-sized weasel, you'll know to avoid the buggers in the unlikely event you ever come across one.

The game begins with Mr Wolverine being paraded in front of evil boffins just after his transformation is complete. Remarking on the marvel they have created, barely human; practically indestructible, they accidentally left the mike on in the viewing room. On hearing the less than flattering comments, Wolverine gets a bit cheesed off and vows to come and get them. The rest is simple to figure out, but still fun to play.

The controls are rather fussy — the camera tracks your movements and your direction is in relation to it. So rather than being in a fixed position behind you, you point the camera, and running forward means you run directly away from the cameras position. This isn't so bad, but when you run backwards, you run towards



Shirts-off

Maniacally pounding the hit and kick buttons will produce some impressive and bloody special moves. If you can master certain key combinations you'll be able to do these moves at will, but mindless hammering of the buttons saw me in good stead without the finesse suggested.

the camera — so you don't know where you're going. You get used to it after a bit, but it does make movements in tight corners awkward because the camera won't let you turn in tight spots. If you can get over that irritant, you'll enjoy the game.

Apart from his knuckle blades, Wolverine has special Wolverine senses. The game is designed so that you use these a lot, and it adds an interesting twist. With the special-senses button held, your sense of smell and vision is heightened. Of course representing smell in a computer game must have been a challenge, but it's handled well. Particularly bad (or pungent) enemies have a kind of luminous Bisto-kid effect with clouds of green smell visible. It's sensible to check your Wolverine senses before turning any corners, because you will often see the whiff of danger hanging in the air.

Even superheroes get damaged in their fights, but Wolverine regenerates his energy after a short rest. There are also power-ups around when big baddies show up (which they do with alarming regularity), and almost act as an early warning that something is going to go down. Retracting those blades will speed recovery, so don't run around with them extended all the time.

On the subject of blood and gore, this one might be a bit much for the youngest players. This one is no worse than average, but if you aren't familiar with the level of violence in today's games, you may be a bit surprised and possibly appalled. So this isn't so much one for the kids stocking — more for your own enjoyment.

If you do manage to master any of those special moves, you're rewarded with various treats. There are also hidden comic books that give you access to things in the special-features section of the game. Generally, rewards aren't too exciting other than the new moves you acquire. But for those who like to play games until they have found every extra, hidden area and bonus level this game has lots of checkboxes for things to find.

Macworld's buying advice

I can't say this game really blew me away, but a lot of effort has been put into making it enjoyable. It's obviously a big budget game, with Mark Hamill and Patrick Stewart doing the voices of the main two characters.

It is, however, a movie spin-off game, which is very often the kiss of death. This one does manage to be a good game with enough twists to make it interesting; it doesn't quite make it a *great* game, though.

David Fanning



Wolfie Antics

Wolverine's Revenge

Publisher: Aspyr www.aspyr.com

Distributor: Softline,
01883 745 111

Pros: Fun special powers, such as the visual power of smell.

Cons: Direction is determined by the camera angle, which makes control difficult.

Min specs: Mac OS X 10.2.6, 733MHz G4 processor or faster; 256MB RAM, 1.7GB hard-drive space; 3D Graphics Acceleration required (minimum ATI Radeon or NVidia GeForce 2 series card); AGP video card with 32MB of video memory (VRAM).

Price: £39 including VAT.

Star Rating: ★★★★★/8.3



Niff-ty features

Enhanced vision lets you see land mines and infra red beams. Bad guys also glow red and even have convenient arrows that appear, sometimes with an animated ghostly wolverine showing suggested methods of attack.





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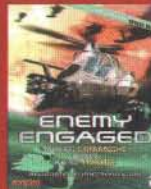
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MacSoft



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1984

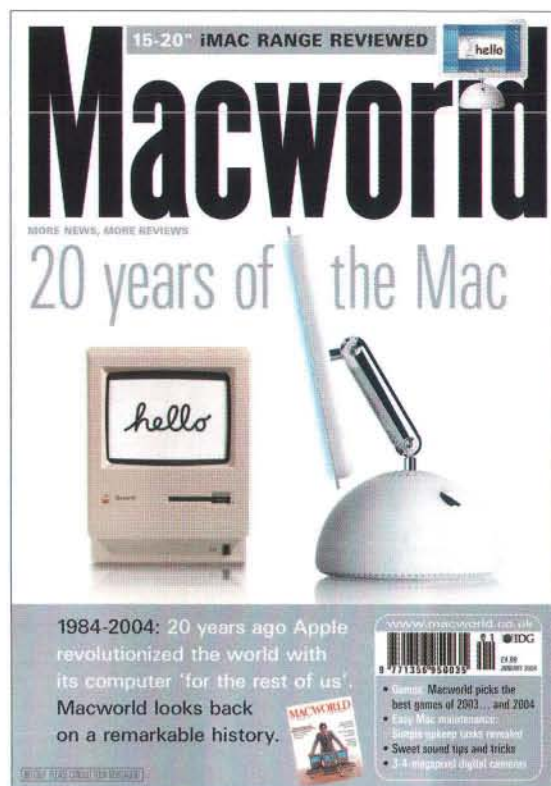
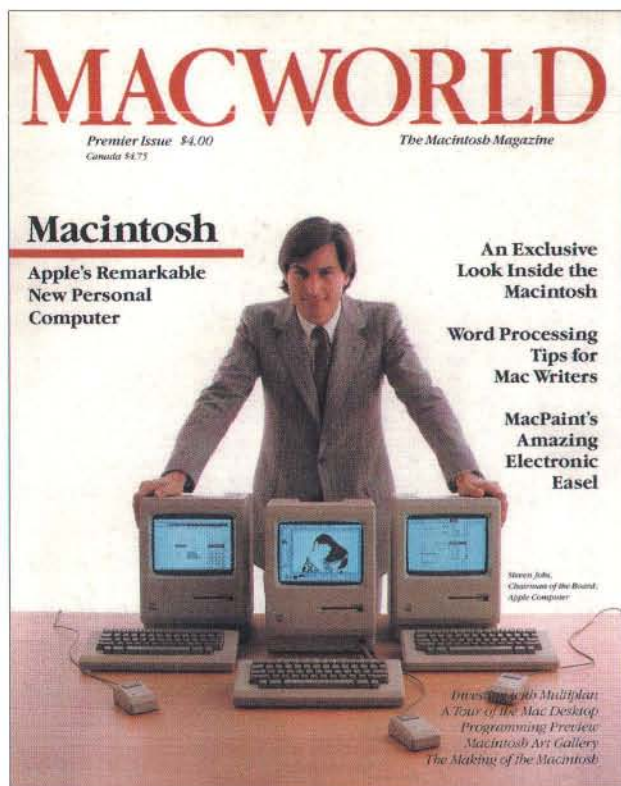




2004

continues page 70





20-20 vision

The making of Macintosh. By Owen Linzmayer, author of *Apple Confidential 2.0*.

January 24, 1984: Apple's Steve Jobs unveiled the Macintosh, which would revolutionize the world of personal computing. While initial sales were slower than expected and its general marketshare is dwarfed by Windows, there's no doubting that the arrival of the Macintosh computer changed the way we live and work today.

Apple hasn't always made the best decisions for its ground-breaking Macintosh. There have been as many blunders as blinders in the Mac's rich and colourful history, and Apple has been on the brink of buyout, merger and outright death on a number of occasions.

But today, 20 years on, Apple is again innovating not just the computer but other giant industries, such as music and entertainment through iTunes and the iPod.

Steve Jobs and the Macintosh are inextricably linked in the minds of most people. So it may come as somewhat of a surprise to learn that the Mac wasn't his idea at all. In fact, he wanted to kill the project in its infancy. Lucky for Apple and millions of dedicated users everywhere, he was unsuccessful. The story of how the Mac came to be is a fascinating tale of one man's inspiration, another's ego, and the dedication of a small band of "pirates" that forever changed the way the world computes.

continues page 72



Cold cash for a code-name

In naming his Macintosh project, Jef Raskin bucked the trend of using female code names. He thought the practice was sexist, and it was. The Annie project, for which Markkula originally tried to recruit Raskin, was a thinly veiled reference to Little Annie Fanny, the well-endowed cartoon character (created by Harvey Kurtzman and Willy Elder) that regularly appeared in Playboy back then.

It's often reported that Raskin misspelled the name of his favourite variety of apples, but that's unlikely given that he was manager of publications. "I intentionally changed the spelling," insists Raskin. "I'm a pretty good speller. Writing is one of the things I do well. The name of the apple is McIntosh. I thought that would lead us to a conflict with McIntosh Laboratory, the hi-fi manufacturer. So I used the spelling Macintosh, figuring that if it conflicted with the overcoat, who cares?"

Unfortunately, the slight spelling change wasn't enough to keep Apple in the clear. When Apple attempted to trademark the name Macintosh in 1982, the request was denied because it phonetically infringed on the trademark already owned by McIntosh Laboratory (www.mcintoshlabs.com), which operated at the very high end of the high-fidelity food chain.

On November 16, 1982, Steve Jobs wrote a letter to the president of McIntosh Labs, Gordon Gow, requesting a worldwide release for the name Macintosh for use in the computer industry. "We have become very attached to the name Macintosh. Much like one's own child, our product has developed a very definite personality," wrote Jobs. Gow visited Cupertino shortly thereafter to take a look at what Apple was developing, but on the advice of his legal counsel, he rejected Jobs' request.

Apple considered shortening Macintosh to MAC, which would stand for "Mouse-Activated Computer" outside the company, and "Meaningless Acronym Computer" internally. However, in late March 1983, Apple managed to license the rights to the name and in 1986 purchased the trademark outright. Although the terms of these agreements remain confidential to this day, it has been reported that Apple paid \$100,000 in cash for the Macintosh name. According to McIntosh's legal counsel, that's "substantially off the mark" and the real payoff was "significantly higher."

The Making of Macintosh is taken from Apple Confidential 2.0, the second edition of the essential Apple compendium. It contains 60 new pages of material, several brand-new or greatly expanded chapters, plus hundreds of new photos, quotes, margin notes, timelines, etc. ISBN 1-59327-010-0

It will be available in January 2004, at a list price of \$19.95 – available through Computer Bookshops UK, Amazon, and booksellers. www.owenink.com



The magnificent seven

Instead of letting the Mac team members wallow in obscurity, Apple broke with industry tradition and heavily promoted them as avant-garde artists. Shown here are (left to right) Andy Hertzfeld, Chris Espinosa, Joanna Hoffman, George Crow, Bill Atkinson, Burrell Smith, and Jerry Manock.

In 2004, when Apple and all the world's Macintosh enthusiasts will be celebrating the Mac's 20th anniversary, one man will be quietly celebrating its 25th. That man is Jeffrey Frank "Jef" Raskin, the true father of the Macintosh. Raskin, a professor turned computer consultant, wrote the Integer BASIC manual for the Apple II in 1976. When he joined Apple on January 3, 1978 (exactly one year after its incorporation), as employee #31, the 34-year-old Raskin was manager of the publications department. Over time he started a new product review division and an application software division. In the spring of 1979, chairman Mike Markkula asked Raskin if he would work on a project code-named Annie, the goal of which was to produce a \$500 game machine (shades of the ill-fated Bandai/Apple Pippin). At the time, Jobs and cohorts were working on the business-oriented Lisa project, and the company felt it needed a lower-cost product than the Apple II, which was selling for well over \$1,000 in a basic configuration without a disk drive or monitor.

"I told him it was a fine project, but I wasn't terribly interested in a game machine," remembers Raskin. "However, there was this thing that I'd been dreaming of for some time, which I called Macintosh. The biggest thing about it was that it would be designed from a human factors perspective, which at that time was totally incomprehensible." Markkula was intrigued and asked Raskin to elaborate on his ideas and investigate the feasibility of putting them into practice.

By late May, Raskin had sketched out the basic ideas behind a computer for the "Person in the Street," known as the PITS, for short. Raskin had grown increasingly frustrated at the complexity of the Apple II. Its open architecture was good in the sense that you could fill its slots with anything you wanted, but that flexibility forced the user to be a pseudo-technician and made it extremely difficult for developers to create products that worked with all configurations.

"Considerations such as these led me to conceive the basic architecture and guiding principles of the Mac," explains Raskin. "There were to be no peripheral slots so that customers never had to see the inside of the machine (although external ports would be provided); there was a fixed memory size so that all applications would run on all Macintoshes; the screen, keyboard, and mass-storage device (and, we hoped, a printer) were to be built-in so that the customer got a truly complete system, and so that we could control the appearance of characters and graphics."

Physically, the computer would be contained in an all-in-one case without cables. Raskin expected people to grow so attached to their Macs that they would never want to leave home without them, so portability was a key concern. He envisioned a weight just under 20lbs and an internal battery providing up to two hours of operation. His wish list also included an 8-bit microprocessor with 64K of RAM, one serial port, a modem, real-time clock, printer, 4-5-inch diagonal screen with bitmapped graphics, and a 200K, 5.25-inch floppy-disk drive all built in.

BASIC and FORTH programming languages were to be contained in read-only memory (ROM), as were "self-instructional" programs that were so easy to use, manuals would be unnecessary. Raskin described a user interface in which everything – writing, calculating, drafting, painting, etc – was accomplished in a graphical word processor-type environment with a few consistent and easily learned concepts. "For example, the calculator abilities will apply to numbers that are entered the same way any text is entered. The traditional concept of an operating system is replaced by an extension of the idea of an on-line editor."

While that may not sound much like the Mac as we know it today, his reasoning was that there should be no modes or levels, a concept that has endured.

Raskin even proposed an official name for his Macintosh computer: the Apple V. He figured that it could



Before the Macintosh, personal computing used to look like this. 20 years after the launch of the Mac, it now looks like this.



go into production by September 1981, for sale that Christmas with a price of \$500. As volume increased, he expected the price to drop to \$300 after 18 months.

"Jobs hated the idea," Raskin recalls. "He ran around saying 'No! No! It'll never work.' He was one of the Macintosh's hardest critics, and was always putting it down at board meetings. When he became convinced that it would work, and that it would be an exciting new product, he started to take over... He was dead set against the Macintosh for the first two years.

"He said it was the dumbest thing on earth, and that it would never sell. When he decided to take it over, he told everybody that he had invented it."

Although Jobs strongly opposed the Macintosh when it was first proposed, Raskin nonetheless won the board's approval to begin a formal research project in September 1979. As he brainstormed, Raskin kept coming up with more wonderful things to add to his computer. It didn't take him long to realize that he couldn't include everything he wanted and still produce a computer with a \$500 price tag, so he settled on a new goal of \$1,000. "There is no doubt that we want more – more mass storage, a built-in

continues page 74

Steve Jobs in Macworld

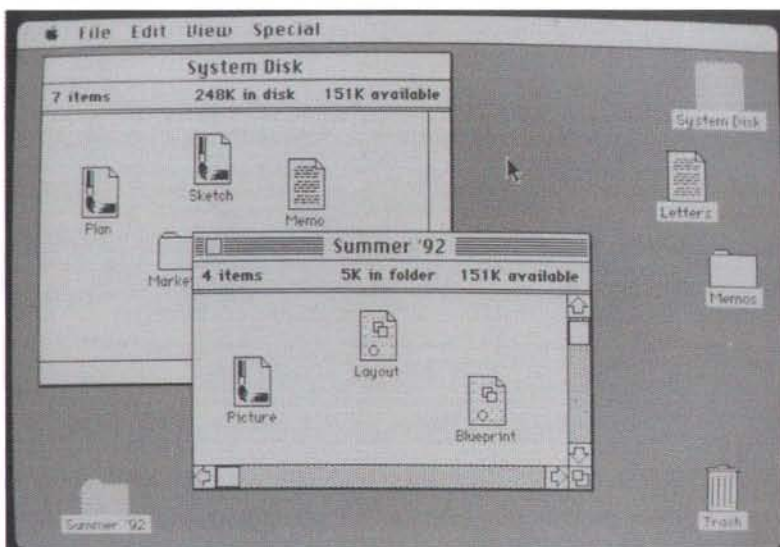
This essay by Steve Jobs originally appeared on page 135 of the premier issue of Macworld in 1984.

The people who are doing the work are the moving force behind the Macintosh. My job is to create a space for them, to clear out the rest of the organization and keep it at bay. I can't spend enough time here, unfortunately, because I have other responsibilities. But every spare moment I have, I dash back because this is the most fun place in the world.

This is the neatest group of people I've ever worked with. They're all exceptionally bright, but more importantly they share a quality about the way they look at life, which is that the journey is the reward. They really want to see this product out in the world. It's more important than their personal lives right now.

The Apple II had a magical feel about it. You couldn't quantify it, but you could tell. The Macintosh is the second thing in my life that's ever felt that way. Opportunities like this don't come along very often. You know somehow that it's the start of something great. So everyone wants it to be perfect and works really hard on it. Everyone feels a personal responsibility for the product.

The Macintosh is the future of Apple Computer. And it's being done by a bunch of people who are incredibly talented but who in most organizations would be working three levels below the impact of the decisions they're making in the organization. It's one of those things that you know won't last forever. The group might stay together maybe for one more iteration of the product, and then they'll go their separate ways. For a very special moment, all of us have come together to make this new product. We feel this may be the best thing we'll ever do with our lives.



Welcome windows (no, not that Windows...)

This prototype Macintosh screen (courtesy of Steve Capps) shows the basic but still-recognizable Mac graphical user interface that lives on in Mac OS X 10.3 Panther.

Timeline

1979

1980

1981

1982

1983

May: Jef Raskin proposes computer for the "person in the street", which becomes Macintosh project. September: Apple's board approves the beginning of a formal research project for Raskin's proposal. November: Steve Jobs and Bill Atkinson visit Xerox PARC, following previous visits by Jef Raskin. The visits inspire Apple's Lisa and Mac.

September: Mac granted three-month reprieve by Apple board that wants to concentrate on Apple III. December: Apple goes public. It's the largest initial public offering since Ford in 1956.

January: Steve Jobs muscles in on Mac project, from Lisa project. March: Mike Markkula replaces Mike Scott as president; Steve Jobs succeeds Markkula as chairman. August: IBM PC introduced, running Microsoft DOS.

February: Mac case design finalized. March: Despite pleas from Markkula and Jobs, Raskin resigns after Jobs demands software role. July: Apple rolls out the Apple Dot Matrix printer priced at \$2,195. December: Apple first PC maker to reach \$1 billion in annual sales.

January: Apple ships first Lisa computer (\$9,995). April: Apple hires John Sculley, formerly president of Pepsi-Cola, as the company's new president and CEO. Jobs takes over Mac project. November: Lisa and Mac divisions combined. December: Apple releases the ImageWriter printer (\$675).

Apple boss Mike Scott

Mike Markkula

John Sculley



Mac user-interface genesis

In 1970, eager to be on the cutting edge of information technology, Xerox gathered many of the best minds in the computer industry and ensconced them in the Palo Alto Research Center (PARC) in California. Its mission was to create the future without worrying about the practicality of actually marketing their creations as commercial products.



By 1973, it had succeeded in giving birth to the Xerox Alto, the embodiment of many computing firsts. It was the first personal computer in the sense that it was designed to be used by a single person. Rather than putting fully formed characters on screen one at a time, the Alto created both text and graphics out of individually controlled pixels using a process called bit-mapping. Using Ethernet, another PARC creation, the Alto could network with other Altos and laser printers, yet another PARC invention. It had a funny pointing device, a three-button mouse, invented in the 1960s by Douglas Carl Engelbart.

Recommended by Jef Raskin and software engineer Bill Atkinson, Jobs approached the Xerox Development Corporation, the copier giant's venture capital branch, and proposed, "I will let you invest a million dollars in Apple if you will sort of open the kimono at Xerox PARC." At the time, Apple was enjoying meteoric growth. Xerox was anxious to get a piece of the action and was more than willing to allow an Apple contingent to take a peek at PARC.

When Jobs first visited in November 1979, he saw with his own eyes what all the fuss was about. He was so excited that he returned in December with Apple engineers and executives. Jobs began jumping around, shouting, "Why aren't you doing anything with this? This is the greatest thing! This is revolutionary!" If Xerox didn't recognize the value of its own work, Jobs certainly did. When he saw the Smalltalk development environment running with its movable overlapping windows and pop-up menus, he knew that's what he wanted, and he instructed the Lisa crew to begin working in that direction.

Apple didn't get blueprints from Xerox, but rather inspiration. "Just like the Russians and the A-bomb," observed PARC's director, George Pake, "they developed it very quickly once they knew it was doable." Eventually more than 15 Xerox employees would defect to Apple, including Steve Capps, Bruce Horn, Alan Kay, and Barbara Koalkin.

printer, colour graphics – but we feel that low price and portability are the most important attributes, and we have kept strenuously to these goals," Raskin wrote in a memo.

Raskin needed someone to turn his ideas into prototypes. His former UC San Diego student, Bill Atkinson, was a respected member of the Lisa team, and Atkinson was impressed with the outstanding work Burrell Carver Smith was doing as a repairman in the Apple II maintenance department.

Atkinson introduced Smith to Raskin as "the man who's going to design your Macintosh," to which Raskin replied, "We'll see about that." Smith whipped together a makeshift prototype using a Motorola 6809E microprocessor, a television monitor, and the guts of an Apple II. Duly impressed, Raskin made him the second member of the Mac team.

In time, Raskin took on an assistant, and Steve Wozniak began part-time work on the Mac, but Smith continued doing most of the detailed electronic design and breadboarding. This skeleton crew toiled in what had been Apple's first office and the birthplace of the Apple II and Lisa: Suite B3 at 20833 Stevens Creek Boulevard, near the Good Earth restaurant in Cupertino. The Macintosh research project was not destined to become an actual product any time soon. Still, Raskin remained obsessed with designing a computer that could be sold at a low price and manufactured in large quantities. Raskin did everything he could to "keep the project from burgeoning into a huge, expensive, and time-consuming effort."

Every feature required a trade-off between price and performance. They wanted a colour monitor, but monochrome would have to do. The Lisa's 68000 microprocessor was desired, but the 6809E was much cheaper. A floppy disk drive would be great, but a digital cassette drive kept the cost down. More memory would be nice, but 64K was considered adequate.

While Raskin's small team was quietly toiling in the Mac "skunkworks," turmoil was brewing elsewhere at Apple. Following the fateful visits to Xerox PARC, Jobs was making waves and enemies as he steered the Lisa project away from its original mandate as a \$2,000 business computer into a much more expensive downsized Xerox Alto. In September 1980, the board of directors wanted to

1984

January 24: **Macintosh 128K introduced** (\$2,495). System 1.0 is made up of six files totalling 216K. Landmark "1984" commercial airs during Super Bowl XVIII. First issue of Macworld, featuring Steve Jobs on the cover, hits newsstands. Microsoft releases Word 1.0 for Mac. May: System 1.1 introduces Set Startup command. September: **Macintosh 512K** (\$3,195), nicknamed "Fat Cat" due to its massively increased memory.



1985

January: **First ever Macworld Expo** is held at Moscone Center in San Francisco. Lisa 2 renamed **Macintosh XL**. Claris releases **FileMaker Pro**. Apple releases **LaserWriter** at \$7,000. Microsoft introduces **Excel** for Mac. April: **System 2: Drag disk to Trash**. July: **Aldus releases PageMaker**, a page-layout application that ushers in the desktop publishing era. September: Following clashes with John Sculley, Apple co-founder **Steve Jobs resigns from Apple**; forms a new computer company, **NeXT**. November: **Microsoft licenses Mac OS** from Apple; ships **Windows 1.0**, almost two years after its originally promised release date.

1986

January: **Apple ships Mac Plus**, which went on to enjoy the longest life span of any Mac model. Releases **System 3.0: HFS, RAM Cache**. First Japanese version of **Mac OS**. February: **Steve Jobs invests \$10 million in Pixar**, a computer division at **LucasFilm**. **System 3.1**. April: **Mac 512Ke**. June: **System 3.2** fixes 30 bugs, adds **Calculator**.



1987

January: **System 3.3**. March: **Macintosh II**, which claims the distinction of being both the first colour Mac and the first expandable Mac, debuts (from £3,500). **Mac SE (System Expansion)**. Apple releases **System 4.0**. **QuarkXPress** debuts. Microsoft releases **PowerPoint 1.0** – The Mac version of the presentation software appears some three years before its counterpart. October: **Apple releases System 4.2 and Finder 6.0**, combining into **System 5.0**.



OS 1.0 1.1
MHz 8MHz
Chips 68000
Boss John Sculley



2.0



3.0 3.1

3.2

3.3 4.0
16MHz
68020

4.2 5.0

cancel the Macintosh project to concentrate on getting the jinxed Apple III out the door and getting the Lisa project under control, but Raskin pleaded for and won a three-month reprieve. During this time, president Mike Scott restructured the company and removed Jobs from the Lisa project. Jobs was furious, and to cool his heels Scott sent him out on the road to represent Apple prior to its initial public offering of stock on December 12, 1980.

When the IPO was over, "Jobs was at loose ends because finally [the board] realized that he was totally incompetent as a manager," recalls Raskin. Jobs set his sights on the Macintosh project. As software wizard Andy Hertzfeld remembers it: "The Lisa team in general told Steve to fuck off. Steve said, 'I'll get this team that'll make a cheap computer and that will blow them off the face of the earth.' Then Steve saw that Raskin had critical mass: He had a hardware engineer and a software engineer. Since Steve was a bigger kid than Raskin, he said, 'I like that toy!' and took it."

"I just decided that I was going to go off and do that myself with a small group; sort of go back to the garage, to design the Macintosh," recalls Jobs.

"They didn't take us very seriously. I think Scotty was just sort of humouring me." The board was only too happy to let Jobs go off and spin his wheels on the Mac, which they viewed as a relatively unimportant research project.

The board may have seen it that way, but Jobs viewed it as his opportunity to prove his worth as a technological innovator. At first, Jobs was content to manage only the hardware side of the project, leaving Raskin in charge of software and documentation. "I was more interested in the interface than the chips inside," says Raskin, so the move didn't trouble him too much. Besides, with Jobs on board, perhaps the project would get the funding and support needed to actually create a product. Would it ever!

Soon after Jobs got involved, the Mac team took over the second floor in a small two-story building known as Texaco Towers due to its proximity to a gas station on the corner of De Anza and Stevens Creek Boulevards.

(The gas station is vacant now, Texaco Towers is occupied by a different company, and Apple's former City Center office complex across the street dominates the intersection.) There was no sign on 20431 Stevens Creek

Boulevard, and the office wasn't even listed in the company's telephone directory. They were out in the sticks, which was perfect for the maverick project Jobs had in mind.

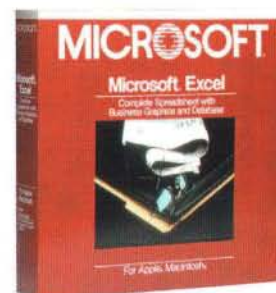
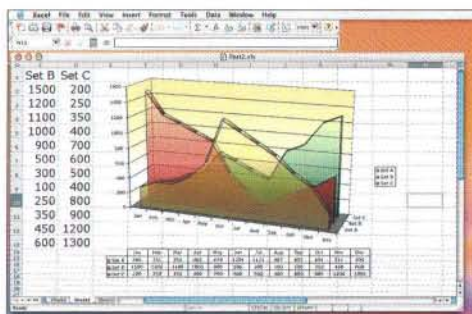
The Mac quickly went from being a research project to a full-blown product development effort with several dozen employees. Jobs seriously underestimated the amount of work yet to be done and the time it would take. He figured his team would ship the Macintosh in early 1982, just a year away. So confident was he in this prediction that he bet Lisa project manager John Couch \$5,000 that the Mac would beat Lisa to market, even though the Lisa had been under serious development for more than two years and the Mac project was just starting in earnest.

When the Mac missed the 1982 ship date, chairman Markkula presented Jobs with a woman's black slip and told him to make sure the garment was "the Mac's last slip." The Lisa appeared on January 19, 1983, more than a year before Mac, and Jobs made good on his \$5,000 bet.

One of the most significant advances in the Macintosh project had come when Smith figured out an ingenious way to replace the 6809E microprocessor with the more powerful 68000 used by the Lisa. Although Raskin resisted at first because it would drive up the cost of the computer, Jobs was all for the change. With Mac and Lisa sharing the same microprocessor, it was easier for the Mac team to use some of the Lisa technologies and software, including Atkinson's amazing QuickDraw routines. However, Jobs steadfastly refused to make the Mac compatible with the Lisa or vice versa.

	1982	1983	1984
Net sales	\$265,537	\$277,545	\$326,268
Total expenses	\$245,366	\$242,816	\$270,468

	1982	1983	1984
Total sales	\$128,240	\$136,371	\$159,609



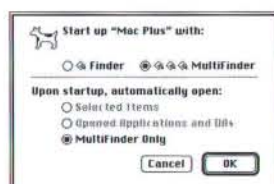
Microsoft Excels

Microsoft first developed Word for Mac and Excel for Mac 20 years ago for the debut of the Mac, and is the largest independent software developer for the Mac.

continues page 76

1988

January: Microsoft launches Windows 2.03, featuring Mac-like icons and overlapping Windows. March: Apple files federal lawsuit against Microsoft claiming copyright infringement. June: Apple releases System 6.0, includes MultiFinder (below). September: Mac IIx ships in Mac II case but with dual 1.44MB floppy drives, and is easier to upgrade.



6.0

25MHz
68030

1989

January: Mac SE/30. February: The Beatles' Apple Corps recording company sues Apple for marketing products with music synthesizing capabilities, claiming a violation of a 1981 trademark coexistence pact. It won't be the last legal dispute between Apple Corps and Apple Computer. Microsoft releases Office 1.0. September: Apple releases the Macintosh Portable, a 16lb machine that wasn't all that portable (£3,995). Mac IIfx. December: Xerox sues Apple over Lisa and Mac user-interfaces.



6.0.2

1990

March: The Macintosh IIfx ("Wicked Fast") debuts. At 40MHz, it's one of the fastest personal computers of its time. From £6,970, it's also the most expensive Mac ever. February: Adobe introduces Photoshop, Type Manager. March: Xerox suit against Apple dismissed. May: Microsoft releases Windows 3.0. September: System 7 beta released to developers. NeXTStep 2.0 introduced. Jean-Louis Gassé leaves Apple. October: Mac Classic, Mac IIsi, Mac LC released as Apple plans consumer blitz. November: Apple announces QuickTime video technology.



6.0.5
40MHz

1991

March: Low-cost laser printers, including the StyleWriter and Personal LaserWriter LS, debut. June: Apple ships System 7 – the first Mac OS to require a hard-disk drive for installation. System 7 introduced 32-bit addressing (allowing more than 8MB RAM), aliases, Balloon Help, Views control panel. October: The PowerBook 100, the first true Mac laptop, debuts at £1,375 – alongside PowerBook 140 and PowerBook 170. PowerBook line was phenomenally successful. Also shipping Mac Classic II, Quadra 700 and Quadra 900.



7.0
68040



Symbolizing Jobs' defiant attitude and Apple's internecine rivalry was the Jolly Roger that flew over the Mac team's newest building, Bandleby III (10460 Bandleby Drive). Jobs referred to his group as pirates, and in keeping with that spirit, he began systematically raiding the Lisa project for key technologies and people (such as Atkinson and Steve Capps) without regard for the overall well-being of Apple. As Hertzfeld explained, "We looked for any place where we could beg, borrow, or steal code."

Needless to say, the Mac began looking a lot like a little

Lisa. QuickDraw and other Lisa routines increased the size of the Mac's ROM. It soon became apparent that the Mac would share so much of the Lisa's interface that a mouse was a necessity, much to Raskin's dismay; he was leaning toward a lightpen or joystick as a graphic input device. "I couldn't stand the mouse," says Raskin. "Jobs gets 100 per cent credit for insisting that a mouse be on the Mac."

However, Raskin did prevail in convincing the team not to use a three-button mouse like the Alto, but rather a one-



The birth of desktop publishing

Jonathan Seybold, founder of the influential Seybold Seminars, says that when Steve Jobs showed him the Macintosh he was convinced it was the future of not only computing but also publishing. "It was very clear to me that the distinction between computing and information science and graphic arts would just go away," he says. In the summer of 1984, Jobs called Jonathan Seybold. "Steve wanted to see me urgently," Seybold recalls. "He said they had a deal with Adobe, they were signing a deal with Linotype, they had real fonts. I went to Cupertino and walked into this tiny room, and there stood Jobs and [Adobe co-founder John] Warnock with a Mac and a LaserWriter. He showed me what they were up to. I turned to Steve and said, 'You've just turned publishing on its head. This is the watershed event.' When I turned to John, he has this look on his face. He was just so happy. I could tell he was thinking, 'This made the company. This is my validation.' It was a magic moment."

It was the end of 1984, and the stage was set for the introduction of the Apple LaserWriter. The LaserWriter debuted to great fanfare at Apple's annual stockholder meeting on January 23, 1985, where Steve Jobs's legendary showmanship was on display. Onstage the Pointer Sisters belted out "I'm So Excited." In the audience were all 27 Adobe employees who had made the trip to Cupertino's Flint Center after toasting the culmination of their two-year effort at Adobe's office the evening before. The jubilant engineers who had toiled in obscurity were seeing their product in a place where they could gauge public's reaction to it.

"You couldn't walk out of there not feeling you were doing something great," says Dan Puttman, Adobe employee #2 and former senior vice president of the North American systems division.

The LaserWriter cost \$6,995 – steep by today's standard, yet astoundingly cheap compared with the IBM and Xerox laser printers of the day, which were priced three to ten times that. Plus, the LaserWriter had Adobe's special ingredient: PostScript. Almost immediately, analysts commented on the LaserWriter's output, praising its "near-typeset quality."

With the release of the LaserWriter, Adobe Systems was on the corporate map. The two soft-spoken scientists [co-founders Warnock and Chuck Geschke] were thrust into the media spotlight, fielding interview requests to explain why the world's second-largest computer company had bet its future on an unknown startup.

When three upstart companies – Adobe Systems, Aldus Corporation, and Apple Computer – joined forces to create desktop publishing in 1985, shockwaves rumbled through the publishing world. Thanks to the combination of the Apple Macintosh, Aldus PageMaker, and the Adobe PostScript-equipped LaserWriter, publishing was liberated from the confines of proprietary typesetting and printing systems.

This article is excerpted from Pamela Pfiffner's Inside the Publishing Revolution: The Adobe Story (Adobe Press/Peachpit Press, 2003). Pfiffner is editor-in-chief of www.creativepro.com

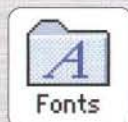
1992

April: Microsoft releases Windows 3.1; it became one of the first widely used PC GUI operating systems. March: Mac LC II ships. April: Court declares that most Windows elements covered by 1985 Apple-Microsoft agreement. Microsoft releases Windows 3.1. May: IBM, Motorola, and Apple team up to make the PowerPC family of single-chip, reduced instruction set computing (RISC) microprocessors. Quadra 950 announced (pictured right). August: Apple releases System 7.1, which introduces Fonts folder, Numbers and Date & Time control panel. PowerBook 145. September: Performa 200, 400 and 600 released. NeXTStep 3.0 ships. October: Mac IIvi, Mac IIvx – last of the Mac II series. PowerBook 160, 180. Apple unveils new PowerBook Duo series of laptops with desktop docks: Duo 210, 230. The much-missed Duo concept was discontinued in February 1997 – the last being the first PowerPC Duo, the 2300.



OS
MHz 40MHz
Chips 68040
Boss John Sculley

7.1



1993

February: Apple ships Centris 610, 650, Mac Color Classic (which notched up the 10 millionth Mac sale), LC III, PowerBook 165c (pictured), Quadra 800. April: Performa 450. June: Michael Spindler becomes CEO. John Sculley continues as Apple chairman. Performa 520, PowerBook 180c. July: Centris 660AV, Quadra 840AV – the AV stood for Audio/Video. Microsoft releases Windows NT 3.1. August: Apple launches the Newton MessagePad handheld. A federal judge dismisses Apple's Windows 2.03 suit against Microsoft. The decision is upheld on appeal. Apple ships PowerBook 165. October: John Sculley resigns. Mike Markkula is elected new chairman. Mac Color Classic II, LC 475, Duo 250, 270c. Quadra 605, 610, 650, 660AV, and the US-only Mac TV (right).



Michael Spindler



7.1.1

button version that would be much easier for novices.

Working with industrial designer Jerrold C. Manock, Jobs also pushed for the Mac's distinctive Cuisinart-inspired upright case, and that necessitated a detached keyboard. With a rough idea of what the computer would look like physically, the design of the Mac's completely automated factory in Fremont, California, got under way in the autumn of 1981, even though Smith was still furiously working on yet another Mac prototype and many of the technical details had yet to be finalized. By February 1982, the case design was fixed and the signatures of the team members were collected and transferred to the mould for the inside of the case.

Things were really picking up steam that February when Jobs approached Raskin and cavalierly announced, "I'm going to take over software, and you can run documentation." That was more than Raskin could bear. He replied, "No, you can have documentation too, I resign."

The showdown was inevitable, according to Dan Kottke, one of the Mac engineers. "Jef Raskin and Steve Jobs both have large egos. Jef could have stayed on if he hadn't gone against Steve. But he feels very strongly about certain things and won't shut up."

Jobs and Markkula asked Raskin to reconsider, so he took a one-month leave of absence. Upon his return, Raskin was offered the leadership of a new research division. "Been there, done that," was the essence of his reply, so on March 1, 1982, he officially tendered his resignation.

Jobs was hell-bent on proving that he could produce a better computer than the Lisa, but it was becoming painfully apparent that the real competition was not with the Lisa division, but rather with International Business Machines. IBM had introduced its Personal Computer on August 12, 1981, and the market had responded favourably, to say the least. Much to its dismay, Apple began losing market share (sliding from 29 to 24 per cent in 1982) to what it considered a clearly inferior product.

Although the Mac team members derided the IBM PC in public, privately they realized Big Blue was a formidable competitor and that they had better get their own product out the door. The window of opportunity was slowly

closing, and if Apple didn't finish the Mac soon, it might lose out altogether. "We had been saying, 'We're going to finish in six months' for two years," recalls Hertzfeld, but Jobs laid down the law and pushed to ship Macintosh on May 16, 1983, at the National Computer Conference in Anaheim, California.

Jobs wanted to avoid licensing copyrighted typefaces – such as Times, Century, Helvetica, and Gothic – for the Mac, so he instructed artist Susan Kare (www.kare.com) to design knockoffs. Kare, who had grown up in the suburbs of Philadelphia, wanted to name her fonts after the railroad stations of the Paoli Local train: Ardmore, Merion, Rosemont, etc. Jobs liked the idea of using city names, but insisted on world-class cities that corresponded to the original typefaces: New York (Times), Geneva (Helvetica), London (Old English), etc. The frivolous font known as San Francisco was originally named Ransom, because documents created with it looked like kidnappers' notes.

By the way, Kare designed all the original Mac fonts except Venice, which was the creation of Bill Atkinson.

Facing a hard deadline forced the team to make several major decisions that resulted in a sort of domino effect. High-resolution graphics had always been a primary goal for the Mac, but even as late as 1982 the nine-inch diagonal monitor could display only 384-x-256 pixels. That was certainly acceptable for graphics, but not exactly at the leading edge of technology.

George Crow, analogue manager, increased the resolution to the final dimensions of 512-x-342 pixels, allowing the Mac to display 80 columns of fixed-pitch (mono-spaced) text. With the increased resolution of the bitmapped display, more memory was needed. Like Raskin before him, Jobs thought that 64K of RAM was acceptable, but the team convinced him that 128K was needed (actually, they wanted more, so they secretly designed a way to easily increase memory by swapping chips).

More memory meant larger programs, and the 200K, 5.25-inch floppy disk drive no longer seemed like an adequate mass-storage device.

Unbeknownst to Jobs, his engineers had anticipated

"The Mac is meant to supplant the PC on the desks of corporate America, just as the PC supplanted our own Apples over the last 18 months."

John Sculley
(Forbes, February 13, 1984)

"It's better to be a pirate than to join the Navy."

Steve Jobs, explaining the appeal of being part of the original Macintosh team)

"The most important thing Steve [Jobs] did was erect a giant shit-deflecting umbrella that protected the project from the evil suits across the street."

Macintosh software wizard Andy Hertzfeld
(Rolling Stone, April 4, 1996)

continues page 78

1994

February: Apple ships a DOS-compatible Quadra 610.

March: PowerPC processors make their Mac debut, with the release of the Power Mac 6100. Price: £1,499. Also released: Power Mac 7100 and 8100.

Apple publicly announces Copland, its next-generation operating system, will ship in 1995 and be followed by another OS, code-named Gershwin, in 1996. It doesn't and it won't. Apple releases System 7.1.2.

May: System 7.1.3. PowerBook 520c, 540c, Duo 280c.

July: PowerBook 150, Quadra 630.

September: Apple announces its intent to support Mac clones, licensing Radius, Power Computing, and Umax. October: System 7.5 introduces QuickDraw GX,

WindowShade. November: The Mac tops the 100MHz mark, with the PowerPC 601-powered Power Mac 8100. Apple petitions Supreme Court over Windows ruling.



7.1.2 7.1.3
180MHz
PowerPC 601



7.5



1995

February: The Supreme Court declines to review Apple's copyright infringement case against Microsoft, ending the seven-year legal dispute. March: System 7.5.1.

May: The first PCI-based Mac, the Power Mac 9500 (right), ships. Price: \$5,300. Also, Power Mac 7200, 7500, 8500. And PowerBook 190, 500, 5300 (plagued by exploding batteries and cracked cases), Duo 2300. June: Apple launches eWorld, an online service. After failing to catch on, eWorld shuts down in March 1996.

August: System 7.5.2 introduces OpenTransport. Microsoft releases Windows 95. September: Apple's 1995 fiscal-year sales top \$11 billion. October: The first multi-processor Mac ships – but not from Apple. DayStar Digital's DayStar Genesis MP 528 features four 132MHz PowerPC 604 processors. Price: \$10,000. November: Apple releases Copland beta. Following the release of Toy Story, Pixar goes public. The 30 million shares owned by Steve Jobs are worth an estimated \$1.17 billion.



7.5.1
200MHz
PowerPC 604

7.5.2



"He's a very motivational kind of guy, like a Roman legion commander. He really knows how to motivate small groups of people to produce."

Mac team member Joanna Hoffman, describing Steve Jobs' managerial style. (Computers & Electronics, March 1984)

"He would have made an excellent King of France."

Jef Raskin (Time, January 3, 1983)

Since Jobs was dead-set against including any expansion slots in the Mac, the engineers tried to sneak one into the design by calling it a diagnostic port. Jobs caught on and demanded its removal.

this problem and were already working on a solution based upon a new 400K, 3.5-inch drive from Sony.

The May 1983 ship date came and went, and still the Mac wasn't complete. Each of the hardware changes took longer than expected, but nothing took as much time as completing the software. Even though Jobs had assembled many of Apple's brightest minds in the Mac division, doing the impossible takes time, especially when you have a perfectionist like Jobs as a boss. "Tact is a word you don't use to describe him," says Espinosa.

"Steve will just walk up to your desk, look at what you're doing and say, 'That's shit.'"

Despite the unbelievable pressure they were under, Mac team members were spotted around the Apple campus wearing T-shirts that read "90 HRS/WK AND LOVING IT". This dedicated band of pirates had bought into Jobs' dream of changing the world, and they worked themselves to exhaustion to make the Macintosh the best damn computer they could.

Finally, after spending \$78 million in development costs, Apple introduced the Macintosh to a packed house at the annual shareholder meeting held in the Flint Center at De Anza College on January 24, 1984.

As master of ceremonies, Jobs strode on stage and recited a few verses from Bob Dylan's The Times They Are A-Changin' before introducing Apple's directors to dispense with the boring corporate and financial news. When Jobs retook the stage, he pumped up the crowd with the following speech:

"It is 1958. IBM passes up the chance to buy a young, fledgling company that has just invented a new technology called xerography. Two years later, Xerox is born, and IBM has been kicking itself ever since.

It is ten years later, the late '60s. Digital Equipment Corporation and others invent the minicomputer. IBM dismisses the minicomputer as too small to do serious computing and, therefore, unimportant to its business. DEC grows to become a multi-hundred-million dollar corporation before IBM finally enters the minicomputer market.

It is now ten years later, the late '70s. In 1977, Apple, a young fledgling company on the West Coast, invents the Apple II, the first personal computer as we know it today. IBM dismisses the personal

computer as too small to do serious computing and, therefore, unimportant to its business.

The early '80s-1981. Apple II has become the world's most popular computer, and Apple has grown to a \$300 million corporation, becoming the fastest-growing company in American business history. With over 50 companies vying for a share, IBM enters the personal computer market in November of 1981 with the IBM PC.

1983. Apple and IBM emerge as the industry's strongest competitors, each selling approximately \$1 billion worth of personal computers in 1983.

The shakeout is in full swing. The first major firm goes bankrupt, with others teetering on the brink. Total industry losses for 1983 overshadow even the combined profits of Apple and IBM for personal computers.

It is now 1984. It appears IBM wants it all. Apple is perceived to be the only hope to offer IBM a run for its money. Dealers, initially welcoming IBM with open arms, now fear an IBM-dominated and -controlled future. They are increasingly turning back to Apple as the only force that can ensure their future freedom.

IBM wants it all and is aiming its guns on its last obstacle to industry control: Apple. Will Big Blue dominate the entire computer industry, the entire information age? Was George Orwell right?"

As the crowd screamed, "No! No! No!", the screen behind Jobs flickered to life with the groundbreaking 1984 commercial (see "Hammer action"). When 1984 had finished playing to the wildly appreciative audience, Jobs solemnly intoned, "There have only been two milestone products so far in our industry. The Apple II in 1977, and the IBM PC in 1981. Today, one year after Lisa, we are introducing the third industry milestone, Macintosh." At that moment, the crowd went wild when a photograph of the Mac appeared on screen.

"Many of us have been working on Macintosh for over two years now, and it has turned out insanely great," boasted Jobs. "Until now, you've just seen some pictures of Macintosh. Now I'd like to show you Macintosh in person." Jobs walked over to a canvas bag sitting on a table and - like a magician pulling a rabbit from a hat - he extracted a Macintosh that began playing Vangelis' score from Chariots of Fire.

After the Macintosh ran through an automatic

1996

January: Apple demos Mac OS on PPCP platform. February: Gil Amelio becomes chairman and CEO of Apple, replacing Spindler. Apple attempts to enter the high-end server market with the Network Server 500 and 700 models. Internet Explorer 2.0, the first Mac version of Microsoft's Web browser, ships. March: System 7.5.3 (translucent dragging). April: Power Mac 7600, 8200. July: Jeff Goldblum uses a PowerBook 5300 to save the Earth from invading aliens in Independence Day. August: Apple gets into the multiprocessor game with the dual-180MHz Power Mac 9500. Apple won't release another dual-processor machine for four years. Performa 6400 ships, as does PowerBook 1400 series - featuring removable 'BookCovers'. Apple ends development of Copland and Gershwin. November: Power Mac 4400 ships. December: Desperate for a Copland replacement, Apple buys NeXT and its operating system, NeXTStep for \$427 million.



OS 7.5.3
MHz 200MHz
Chips 604
Boss Gil Amelio



1997

January: Steve Jobs returns to Apple as an advisor. Apple unveils plans for a new OS to incorporate NextStep; it's code-named Rhapsody. System 7.6 introduces QuickDraw 3D. February: Power Mac 7300, 8600, 9600, PowerBook 3400. April: System 7.6.1. Power Mac 6500. May: To mark its 20th anniversary as a company, Apple releases the Twentieth Anniversary Mac (pictured below). It's also the first LCD desktop Mac. Price: £5,759. PowerBook 2400 sub-notebook ships in US and Japan. Apple announces plans to spin off Newton as a wholly owned subsidiary. July: Gil Amelio resigns from Apple. August: The satellite image of Bill Gates shares the stage with Steve Jobs, as Microsoft and Apple announce a five-year technology alliance at Macworld Expo Boston. Mac OS 8 ships. September: Steve Jobs becomes interim CEO. In a move to kill off the Mac clone market, Apple buys Power Computing for \$100 million. November: Apple ships first PowerPC G3 Power Macs and PowerBook G3.



7.6 350MHz
7.6.1
OS 8
G3
Steve Jobs



demonstration of its graphics capabilities, Jobs said, "Today, for the first time ever, I'd like to let the Macintosh speak for itself." With the press of a key, a synthesized voice emerged from the beige box. "Hello. I am Macintosh. It sure is great to get out of that bag. Unaccustomed as I am to public speaking, I'd like to share with you a thought that occurred to me the first time I met an IBM mainframe: Never trust a computer you can't lift. But right now I'd like to sit back and listen. So it is with considerable pride that I introduce a man who has been like a father to me, Steve Jobs."

Not only did the Mac impress the crowd with its voice synthesis, it was considerably smaller, faster, and cheaper than the groundbreaking Lisa introduced the previous year. It had a 68000 microprocessor running at 7.83MHz, 128K of RAM, one 400K, 3.5-inch floppy disk drive, and a nine-inch monochrome display. The Mac came bundled with MacPaint (written by Bill Atkinson), MacWrite (written by Randy Wigginton), and the Finder (written by Bruce Horn and Steve Capps).

Until the last moment before introduction, Apple executives argued over the Mac's price. Jobs had hoped that the Mac could sell for \$1,495.

As it turned out, the Mac cost \$500 to build (83 per cent materials, 16 per cent overhead, 1 per cent labour), and with Apple's standard markup, the price should have been \$1,995. But president John Sculley had ordered an aggressive \$15-million, 100-day advertising blitz, which kicked off with the 1984 commercial during Super Bowl XVIII. To pay for this campaign, Sculley tacked on a hefty premium, and the list price for the original Mac was set at \$2,495. So much for Raskin's \$500 computer that would appeal to the person in the street. The Macintosh was now "the computer for the rest of us," defined as those with several grand burning holes in their pockets.

Even at its artificially inflated price, Jobs predicted Apple would sell 50,000 Macs in the 100 days following introduction, and half a million units by the end of 1984; Sculley's figure was a more realistic quarter million units. Although they were both way off base with their annual forecasts, Apple reached the 100-day goal on Day 73 (April 6), and on Day 100 (May 3); after having sold 72,000 Macs,



product marketing manager Barbara Koalkin boasted to USA Today, "We could have sold 200,000 Macintoshes if we could have built them."

Confident that sales would pick up during the Christmas season, Apple began building inventory at a rate of 110,000 units a month. Unfortunately, after the initial burst of sales to early adopters (plus computer dealers, developers, and college students who paid far less than list price thanks to special promotions), Mac sales tapered off dramatically to roughly 20,000 Macs a month. In fact, it took until September 1985 to sell 500,000 Macs, and Apple didn't reach the one million mark until March 1987.

Hammer action

20 years ago, Apple's "1984" TV advert introduced the Macintosh to the world – or rather to viewers of that year's Super Bowl, as it was shown only once nationwide in the US.

For more on this multiple award-winning advert, directed by Gladiator's Sir Ridley Scott, see News, page 27.

The 20 most influential people in the Mac's history, page 80

1998

January: Mac OS 8.1 introduces HFS+. February: Apple reorganizes Claris into a standalone subsidiary called FileMaker. It also ends any Newton development. March: Power Mac G3 All-In-One ships in US. May: Apple unveils a revised OS strategy, changing the name of its next-generation OS to OS X. Wall Street PowerBook G3 ships. June: Umax pulls out of Mac clone market. Microsoft releases Windows 98. August: Apple ships the Bondi Blue 233MHz iMac, starting both the USB and translucent plastic crazes. Price: £999.



8.1



8.5



8.5.1

1999

January: The Power Mac G3 becomes the first computer to feature FireWire. Price: £1,069-£2,029. The iMac adds new flavours – blueberry, tangerine, grape, lime, and strawberry, to be exact. In the next few years, Apple's consumer line will go through numerous colour shifts, including indigo, sage, ruby, snow, and, inexplicably, Blue Dalmatian. The Blue-&-White Power Mac G3 sees off the last of the beige. March: Mac OS X Server released.

April: Apple releases Final Cut Pro. May: Mac OS 8.6. June: Noah Wyle and Anthony Michael Hall recreate the Steve Jobs-Bill Gates contretemps in The Pirates of Silicon Valley. September: The iBook, a portable version of the iMac, hits the market in blueberry and tangerine. Price \$1,599. The G4 chip becomes the processor for Power Macs at 400MHz. But a shortage of 500MHz chips forces Apple to downgrade the top clock speed of the Power Mac G4 to 450MHz. Price: £1,099-£2,399. October: Mac OS 9 ships, introducing multiple users, Keychain, Internet File Sharing, Network Browser. FireWire added to make iMac DV.



450MHz

8.6

OS 9
500MHz
G4



The 20 most influential people in the Mac's history

Often lost in the fanatical adoration of the Macintosh as a high-tech fetish object is the fact that this fantastic box of bits is ultimately a human creation. Over the past 20 years, thousands of people within Apple and in the Mac development community contributed their blood, sweat, and tears to advance the state of the art in computing. Without their hard work, inspiration, and creativity, there would be no Macintosh, and quite possibly, no Apple, either. All of us in the Mac world owe them a debt of gratitude that can never be adequately repaid. Here then, is a tribute to the 20 most influential people in the Mac's history, presented in alphabetical order.



Ended Jobs' exile.

Dr Gilbert Frank Amelio

Public opinion over Gil Amelio is decidedly split. Some feel he did the best he could after inheriting an untenable situation when he replaced Michael Spindler as CEO of Apple in late January 1996. Others believe he was an over-compensated corporate dullard who clashed with Apple's unique freewheeling culture. Regardless of your opinion of Amelio's rocky 17-month tenure at the helm of Apple, his decision to purchase NeXT in December 1996 was instrumental in restoring the company to health if for no other reason that it brought Steve Jobs back to Cupertino after 11 years in exile. Less than seven months later, Amelio was ousted by the board, clearing the way for Jobs to assume control.

Fred D Anderson

Even the most ardent Apple advocate can be forgiven for not knowing the name of Fred Anderson. After all, a behind-the-scenes financial deal doesn't often result in fame and glory, but in this case, it should. Amelio hired

Anderson as chief financial officer in March 1996, when Apple was in a death spiral with only a three-month cash supply. In June, Amelio and Anderson pulled off a Wall Street first: they executed a massive convertible debenture offering literally overnight because they simply didn't have the luxury of the typical month-long road show. In one fell swoop, the \$661 million from the convertible bond sale solved Apple's liquidity crisis. Need further proof of Anderson's value? He's the only Amelio-era executive still working for Jobs.

Bill Atkinson

While working on the ill-fated Lisa in the early 1980s, Bill Atkinson wrote the QuickDraw routines that handled drawing to the screen. When he joined the original Mac team, Atkinson adapted QuickDraw for the



Wrote seminal programs

2000

January: Steve Jobs drops the "interim" tag from his CEO title and shows off Mac OS X's Aqua interface in public for the first time. February: Graphite iBook Special Edition ships. Power Mac and PowerBook hit 500MHz. Microsoft releases Windows 2000. August: The amazingly innovative Power Mac G4 Cube debuts. Price: £1,249-£1,599. It wins awards left, right and



centre, but is regarded as far too expensive when coupled with the complementary LCD Apple screens. One day all computers will look like this, but not today. September: The public gets its hands on a beta version of Mac OS X, released at Apple Expo Paris. Microsoft releases Windows Me. The iBook goes an extraordinary shocking shade of lime green.



OS OS 9
MHz 500MHz
Chips G4
Boss Steve Jobs

2001

January: The PowerBook G4 ushers in Apple's shiny metal look. Price: £1,899-£2,499. Apple ships Mac OS 9.1, announces OS X 10.0.0. February: Macworld Expo Tokyo stunned by Flower Power and Blue Dalmatian iMacs. Apple premieres DVD-R SuperDrive. March: Mac OS X 10.0.0 debuts with memory protection, preemptive multitasking, symmetric multiprocessing, Quartz graphics, Aqua interface, QuickTime 5. Apple gives away free iTools Web services – later to become the no-longer-free .Mac. May: 12-inch iBook goes all white with new case design. July: The G4 Cube becomes Apple's best-looking failure, as the company discontinues production. Mac OS 9.2.



August: 800MHz dual-processor Power Mac G4. Mac OS 9.2.1. September: The new operating system gets a needed upgrade with the OS X 10.1 update. October: Apple enters the portable music business, unveiling the first iPod music player, with 5GB capacity. Microsoft releases Windows XP. December: Mac OS 9.2.2 released – the last-ever non-X version of the Mac OS.

9.1 733MHz
Mac OS X 10 10.1 800MHz

Mac, and he designed much of the initial Mac user interface. To demonstrate the power of the Mac's simplicity, Atkinson wrote MacPaint, the seminal graphics program. In 1987, Apple released Atkinson's HyperCard, a remarkable database tool that allowed mere mortals to easily program links between graphics and text. Although HyperCard languished after Atkinson left Apple to found General Magic in 1990, the hyperlink concept it introduced was central to the later success of the Web.

Paul Brainerd

In 1985, the Mac was on the verge of slipping into computing history as yet another revolutionary product that was highly praised by not purchased. All that changed when Aldus PageMaker unlocked the potential of Adobe's page-description language, PostScript, which was embedded in Apple's LaserWriter printer. Aldus founder Paul Brainerd originally intended to sell PageMaker as a high-end, vertical product, but Steve Jobs convinced him to target consumers instead. By providing a pro publishing tool at a mass-market price, Aldus revolutionized the printing industry and created the Mac's first killer app: desktop publishing. The DTP revolution made the Mac just as VisiCalc made the Apple II, and it propelled Aldus to a successful public offering and merger with Adobe in September 1994, after which Brainerd resigned.

Steve Capps

One of 15 Xerox Palo Alto Research Center scientists who jumped ship to work on the Lisa at Apple in the early 1980s, Steve Capps was subsequently shanghaied by Steve Jobs in 1983 to help create the Mac. After working on the Mac ROM, Capps teamed up with Bruce Horn to write the Mac's filing system in only six months. Version 1.0 of the Finder was remarkable in that it consumed less than 50K of memory, yet allowed users to easily point and click their way through icons representing documents in folders on disks. Capps left Apple in 1985, started a music company, returned to Cupertino in 1987 to lead the development of the handheld Newton MessagePad, and was eventually named an Apple Fellow in 1994. Capps went on to become Microsoft's user interface architect from 1996 to 2001, and has recently founded his own company, onedoto.

Jean-Louis Gassée

The "Flamboyant Frenchman" was indirectly responsible for both Steve Jobs' original ouster from Apple as well as his eventual return. As vice president of product development, Jean-Louis Gassée learned of Steve Jobs' intention of overthrowing then-CEO John Sculley in 1985. Gassée warned Sculley, who thwarted the coup. Within four months, Jobs resigned to start NeXT. Gassée's star rose along with the sales of the expandable Macintosh II he advocated, and fell when he stood by his premium pricing strategy and the laughably heavy Macintosh Portable. When Sculley passed him over for Spindler, Gassée resigned in 1990. Six years later, after Gassée demanded too high a price for his BeOS, he inadvertently drove a desperate Gil Amelio into Jobs' arms.

William Henry Gates III

Say what you will about billionaire Bill Gates (and we're sure you will), there's no denying that he is one of the most influential people in the Mac's history. Back when the Macintosh was just a research project, Gates appreciated the importance of the graphical user interface and began the largest Macintosh software development effort outside of Apple. MultiPlan, Word, Excel, and PowerPoint soon dominated the Mac productivity market and Microsoft has remained a dedicated developer through thick and thin. Granted, Gates did sucker Sculley into a 1985 deal that gave Microsoft the legal right to use the Mac look-and-feel in Windows, but that's another story altogether...

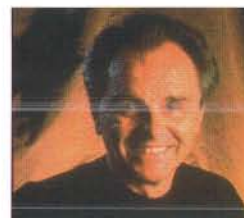
Ellen M Hancock

In July 1996, newly installed Apple CEO Gil Amelio (see earlier) hired his National Semiconductor protégé Ellen M Hancock as chief technology officer and executive VP, R&D. For more than two years, Apple had been squandering hundreds of millions of dollars and virtually all of its software engineering resources on Copland, a next-generation operating system. It took Hancock less than a month to see Copland for what it really was: a bloated piece of inferior vaporware. Hancock immediately froze all

continues page 82



Paul Brainerd
Invented desktop publishing



Jean-Louis Gassée
Pushed Steve Jobs out and in



Bill Gates
Published Mac apps (lots of 'em)



Ellen Hancock
Killed Copland

2002

2003

January: The flat-panel G4 iMac debuts, as Apple pronounces the CRT officially dead. Price: £1,149-£1,599. OS X becomes the default operating system for all new Macs. 14-inch iBook debuts. April: To appeal to education customers, Apple announces the eMac, an all-in-one system with a flat CRT monitor. Price: From £729. May: Apple makes its first push into the server market since its Network Server product line with the release of the Xserve. It's the first Apple machine to

include Double Data Rate (DDR) RAM. Prices from £2,599. August: The Power Mac G4 hits the gigahertz mark, and gets a set of shiny mirrored doors. Apple releases its next major OS X update, OS X 10.2, code-named Jaguar: mail, iChat, Address Book, iMovie, iPhoto, iPod, iSync, iWeb, iWork, iPhoto, iMovie, iPod, iSync, iWeb, iWork, Quartz Extreme, Rendezvous. September: Apple announces OS X-only boot strategy.

January: iLife, a suite that includes iPhoto, iDVD, iMovie, and iTunes, debuts, along with Safari, an Apple-built Web browser. Apple claims 5 million active users of OS X. It estimates the number will be double by year's end. Aluminium replaces Titanium for new 12-inch and 17-inch PowerBooks. April: Apple makes a splash in the music world with the iTunes Music Store, an online music service where users legally can legally download more than 200,000 songs for as little as 99 cents each. June: Mac OS X 10.3 panther unveiled (£99).

August: IBM's G5 processor debuts in the Power Mac line, topped off by the dual-2GHz Power Mac G5. Price: £2,299.

October: The latest update to OS X, 10.3 code-named Panther, brings over 150 new features and enhancements to the operating system - including Exposé, iChat Av, Font Book, FileVault and Xcode.



1GHz

1.25GHz

10.2

1.42GHz

2GHz
G5

10.3

Timeline created by Adelia Cellini, Philip Michaels and Simon Jary. Research aided by Owen Linzmayer's Apple Confidential 2.0.



The most important Macs ever!

Macintosh 128K

Claim to fame: The computer that started it all

Specs: 8MHz 68000, 128Kb RAM, 400Kb Floppy Drive

Price: £2,595.

Life: Jan 1984-Oct 1985

Macintosh II

Claim to fame: The first colour Mac, first NuBus Mac

Specs: 16MHz 68020, 40MB disk (optional), 20MB max RAM

Price: From £3,500.

Life: Mar 1987-Jan 1990

Macintosh Portable

Claim to fame: The first (almost) laptop Mac

Specs: 16MHz 68000, 40MB disk (optional), 8MB max RAM

Price: From £3,995.

Life: Sep 1989-Oct 1991

Macintosh IIfx

Claim to fame: The most expensive Mac ever was "wicked fast"

Specs: 40MHz 68030, 40-160MB disk, 128MB max RAM

Price: From £6,970.

Life: Mar 1990-Apr 1992

PowerBook 100

Claim to fame: The first (really) laptop Mac

Specs: 16MHz 68000, 20-40MB disk, 8MB max RAM

Price: Oct 1991-Aug 1992

Life: £1,375.

Power Mac 6100

Claim to fame: The first PowerPC Mac

Specs: 60MHz 601, 500MB disk, 72MB max RAM

Price: £1,499.

Life: Mar 1994-Oct 1995

Power Mac 9500

Claim to fame: The first PCI-based Mac and the most expandable Mac ever

Specs: 132MHz 604, 2GB disk, 1.5GB max RAM, 6 PCI slots

Price: £4,725.

Life: May 1995-Feb 1997

Twentieth Anniversary Mac

Claim to fame: The first LCD desktop Mac, made for Apple's 20th anniversary - which had taken place the previous year...

Specs: 250MHz 603e, 2GB disk, 256MB max RAM

Price: £5,759.

Life: May 1997-Mar 1998

non-essential Copland development. Her search for an alternative OS culminated in a dramatic technology shoot-out between Jean-Louis Gassée's BeOS and Steve Jobs' OPENSTEP. Despite recommending Apple purchase NeXT, Hancock never enjoyed the respect of Jobs, and she resigned along with Amelio in July 1997. If you are among the millions of users currently enjoying the rock-solid Mac OS X, it's because Hancock had the guts to kill Copland.



Forged Mac ToolBox

Andy Hertzfeld

When Andy Hertzfeld joined Apple in August 1979, he helped create peripherals (including the Silentype thermal printer and the first 80-column card) and system software for the Apple II. Two years later, Steve Jobs literally

pulled the plug on his Apple II and drove him to join the Macintosh project, where he designed and implemented a third of the original system software, including the User Interface ToolBox. By placing these tools in the Mac's ROM, Apple made it easy for programmers to adhere to its all-important User Interface Guidelines, thereby ensuring a consistent, familiar look-&-feel for all Macintosh applications. After leaving Apple in 1984, Hertzfeld went on to co-found Radius, General Magic, and Eazel.



Designed innovative Mac models

Jonathan Ive

Perhaps the greatest unsung hero of Apple's recent resurgence is design-guru Jonathan Ive. Born in London in 1967, Ive studied art and design at Newcastle Polytechnic, designed toilets and wash basins, and then created PowerBook

concepts as a consultant before joining Apple's Industrial Design Group (IDG) in September 1992. Ive designed the Newton MessagePad 110, the AppleVision 1710 displays, the Twentieth Anniversary Mac, the education-portable eMate, and the MessagePad 2000, but it wasn't until the innovative iMac was released in 1998 that he achieved celebrity status. The iMac's rounded, translucent, candy-coloured case proved irresistible to consumers and helped turn around Apple's fortunes. As vice-president of IDG, Ive has led the creation of a whole family of visually stunning products, including the iBook, flat-panel iMac, iPod, PowerBook G4, Cube, and Power Mac G5 tower.



Founded and saved Apple

Steven Paul Jobs

In 1979, Steve Jobs attempted unsuccessfully to kill Jef Raskin's Macintosh project in its infancy, but Apple's board of directors won the day. Two years later, Jobs had been kicked off the Lisa team, so he took over the Mac project to prove his merit. Using his unequalled personal charisma (dubbed the "Reality Distortion Field") and unorthodox motivational techniques, Jobs pushed his team to extraordinary lengths to produce the Mac in 1984. The 128K Mac was so incredible that had Jobs never done anything else, his legend was assured. But he went on to pull off more impressive feats. After resigning from Apple in 1985, he founded NeXT and funded Pixar. In 1996, an ailing Apple paid \$427m for NeXT. Within a year, Jobs was named interim CEO, and soon returned the company to profitability through innovation of the venerable Mac line.



Power Computing: clone king

Michael Spindler finally decided to allow Mac clones. Trouble was, none of the marquee companies Apple wanted as partners would have anything to do with it. Power Computing, led by Stephen "King" Kahng, stepped into the breach in December 1994 as the world's first Mac licensee. Kahng's engineers embarrassed a complacent Apple by quickly shipping high-end clones that were cheaper and faster than Apple's Macs. Power Computing was so successful that by the time Steve Jobs took charge of Apple, he felt it was a threat, so he purchased the clone company in September 1997, effectively ending Apple's late licensing experiment.



Created Mac icons and fonts

Stephen S. Kahng

Many pundits believe Apple would be the Microsoft of today had it licensed the Mac way back when. None other than Bill Gates proposed such a scheme in 1985, but Apple stuck by its proprietary strategy until the early 1990s, when CEO

Susan Kare

Anyone who has touched a graphical user interface computer in the last 20 years has unknowingly encountered the work of artist Susan Kare. Roped into the Macintosh project in 1983 by high-school friend Andy Hertzfeld, Kare

had to come up with instantly understandable visual metaphors for computer commands, then depict these in icons created by toggling black-&-white pixels in a tiny grid. In addition to creating the Mac's wristwatch, Trash, bomb, and diskette icons, Kare also designed all of the original Mac bit-mapped fonts except Venice. Kare followed Steve Jobs to NeXT in 1986, and has subsequently designed buttons, icons, and screen images for Microsoft's Windows 3.0 and IBM's OS/2, among many other products.



Evangelized "The Mac Way"

Guy Kawasaki

No matter how great the original 128K Macintosh was, Apple rightly realized that to make inroads against IBM's PC, there had to be plenty of Mac programs and peripherals available from third-party developers. The man faced

with the daunting task of convincing, cajoling, and coercing Mac development was the charismatic Guy Kawasaki, Apple's original Software Evangelist. Kawasaki was so successful as the pied piper of programmers that for many years all the most innovative products came out first on the Macintosh, despite its relatively small market share. After leaving Apple, Kawasaki wrote several books and was CEO of both ACIUS and Fog City Software. He returned as an Apple Fellow during Gil Amelio's tenure. During Apple's darkest days, Kawasaki launched Evangelist, a mailing list that could mobilize 44,000 enthusiastic Mac subscribers on a moment's notice. Kawasaki used his bully pulpit to promote the products of loyal Mac developers and keep business and technology journalists from unfairly criticizing Apple.

Jeffrey Frank Raskin

It's been said that success has many fathers, but there is one man who can rightfully claim to be the true father of the Macintosh. Jef Raskin started as manager of the



Created Mac icons and fonts

he marvelled at what its researchers and engineers were doing (see page 74). Raskin's Macintosh project was designed for the "person in the street" who wanted to use a computer to accomplish a task but didn't want to be bothered learning about computers per se. Steve Jobs initially hated Raskin's proposal, but after he was kicked off the Lisa team, Jobs joined and then took over Raskin's Macintosh project and turned it into a full-fledged product-development effort. Raskin resigned. Granted, the Mac that shipped in 1984 differed greatly from Raskin's prototypes, but the underlying goal of elegant simplicity was retained and became the hallmark of all Apple products.



Managed meteoric growth

personally dented the universe, but he absolutely altered Apple Computer. When Sculley took charge in 1983, Apple had net sales of \$600 million, mostly from the ageing Apple II line. Sculley managed the transition to the Mac, ousted a beloved founder, expanded the product line and opened up the architecture, tripled headcount, and turned in ten profitable years. When Sculley resigned in 1993, annual sales topped \$8 billion (compared to \$6.21 billion for 2003), giving the company the momentum it needed to survive the rough road ahead. Sculley is perhaps most famous for his championing of the Newton handheld PDA.



Produced poetry in digital design

young man of his plans for a computer he called Macintosh. Smith quickly whipped together a prototype, and a duly impressed Raskin invited Smith to become the second member of the Macintosh project. Much as Steve Wozniak single-handedly created the bulk of the Apple II, Smith worked magic on the digital electronics design of the Macintosh, from prototype to finished product. Take a look at an early Mac motherboard and you'll see an object of unequalled beauty, from its efficient use of chips to the clean printed circuit lines running between components.

Michael H Spindler

No doubt German-born Michael Spindler was dealt a bad hand when he took over as Apple CEO from John Sculley in 1993. Secret merger talks with telecoms giant AT&T had just broken down, Sculley's Newton MessagePad would soon prove an expensive disappointment, and Apple's user-

publications department when he joined Apple as employee #31 in 1978. By the following year, he was designing a radically new kind of computer, focusing on human factors, not technical specifications. Raskin was a frequent visitor to XeroxPARC, where

he marvelled at what its researchers and engineers were doing (see page 74). Raskin's Macintosh project was designed for the "person in the street" who wanted to use a computer to accomplish a task but didn't want to be bothered learning about computers per se. Steve Jobs initially hated Raskin's proposal, but after he was kicked off the Lisa team, Jobs joined and then took over Raskin's Macintosh project and turned it into a full-fledged product-development effort. Raskin resigned. Granted, the Mac that shipped in 1984 differed greatly from Raskin's prototypes, but the underlying goal of elegant simplicity was retained and became the hallmark of all Apple products.

John Sculley

Steve Jobs enticed John Sculley to leave Pepsi by claiming that as Apple's CEO he would have an opportunity to change the world, not just sell sugared water to kids. It would be stretching the truth to assert that John Sculley

personally dented the universe, but he absolutely altered Apple Computer. When Sculley took charge in 1983, Apple had net sales of \$600 million, mostly from the ageing Apple II line. Sculley managed the transition to the Mac, ousted a beloved founder, expanded the product line and opened up the architecture, tripled headcount, and turned in ten profitable years. When Sculley resigned in 1993, annual sales topped \$8 billion (compared to \$6.21 billion for 2003), giving the company the momentum it needed to survive the rough road ahead. Sculley is perhaps most famous for his championing of the Newton handheld PDA.

Burrell Smith

Because he lacked an engineering degree, initially the only job Burrell Smith could land at Apple was in the repair department. But star programmer Bill Atkinson saw promise in Smith and introduced him to Jef Raskin, who told the

young man of his plans for a computer he called Macintosh. Smith quickly whipped together a prototype, and a duly impressed Raskin invited Smith to become the second member of the Macintosh project. Much as Steve Wozniak single-handedly created the bulk of the Apple II, Smith worked magic on the digital electronics design of the Macintosh, from prototype to finished product. Take a look at an early Mac motherboard and you'll see an object of unequalled beauty, from its efficient use of chips to the clean printed circuit lines running between components.

Michael H Spindler

No doubt German-born Michael Spindler was dealt a bad hand when he took over as Apple CEO from John Sculley in 1993. Secret merger talks with telecoms giant AT&T had just broken down, Sculley's Newton MessagePad would soon prove an expensive disappointment, and Apple's user-

interface "look-&-feel" lawsuit against Microsoft would soon be dismissed, crushing Spindler's hopes of blunting Windows' momentum. In a bid to regain all the lost PC market share, Michael Spindler half-heartedly relented to Mac licensing in 1994, and

directed product development to churn out a bewildering array of over 130 Mac models during the less than three years he led the company. It was a nightmare; differentiating between models was confusing for consumers, keeping pace with the introductions was difficult for developers, and forecasting inventory needs and sales was impossible for Apple. Jobs clearly learned from Spindler's mistake, reducing Apple's current product line to a simple matrix comprised of consumer and professional models of desktop and portable computers.



Managed major Mac OS releases

Jr, formerly NeXT's VP of engineering, became Apple's senior VP of Software Engineering in February 1997. Although the process took longer than Apple originally promised, Tevanian managed to actually ship a next-generation Unix-based operating system, something that his predecessors failed to do since 1994. That accomplishment is even more remarkable when you remember that during the gestation period of Mac OS X, Apple also shipped major releases (Mac OS 8 through OS 9.2.2) of its traditional operating system. And if all that wasn't enough, Tevanian has kept Apple engineers busy releasing substantial upgrades (Puma, Jaguar, and Panther) to Mac OS X three years running.



Established human interface guidelines

to accomplish tasks, the ideal placements of buttons, the correct names of menus, etc. That effort was led by Bruce Tognazzini, who became employee #66 when he joined Apple in 1978. Over his 14-year career at the company, "Tog," as he is affectionately known, founded the Apple Human Interface Group that codified the rules of designing software "the Macintosh way." Just as importantly, Tog acted as Apple's Human Interface Evangelist to spread the word and ensure compliance among Macintosh developers so that applications were consistent in overall appearance and operation.

Owen W Linzmayer (owenink@owenink.com) is the San Francisco-based author of *Apple Confidential 2.0: The Definitive History of the World's Most Colorful Company*, recently published by No Starch Press. Visit www.owenink.com to order a signed copy of the second edition of the book.



Confused consumers

Avadis Tevanian Jr, Ph.D.

When Apple bought NeXT in 1996, in addition to some great technology and Steve Jobs, it also absorbed Jobs' hand-picked NeXT staff. Within months, many of Apple's executives found themselves replaced by NeXT alumni. Avie Tevanian

Jr, formerly NeXT's VP of engineering, became Apple's senior VP of Software Engineering in February 1997. Although the process took longer than Apple originally promised, Tevanian managed to actually ship a next-generation Unix-based operating system, something that his predecessors failed to do since 1994. That accomplishment is even more remarkable when you remember that during the gestation period of Mac OS X, Apple also shipped major releases (Mac OS 8 through OS 9.2.2) of its traditional operating system. And if all that wasn't enough, Tevanian has kept Apple engineers busy releasing substantial upgrades (Puma, Jaguar, and Panther) to Mac OS X three years running.

Bruce Tognazzini

One of the reasons the Mac remains so popular is its legendary ease of use, but as Windows demonstrates, that takes more than just slapping a mouse onto a computer with a graphical user interface. A lot of thought went into determining the best ways

to accomplish tasks, the ideal placements of buttons, the correct names of menus, etc. That effort was led by Bruce Tognazzini, who became employee #66 when he joined Apple in 1978. Over his 14-year career at the company, "Tog," as he is affectionately known, founded the Apple Human Interface Group that codified the rules of designing software "the Macintosh way." Just as importantly, Tog acted as Apple's Human Interface Evangelist to spread the word and ensure compliance among Macintosh developers so that applications were consistent in overall appearance and operation.

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iMac

Claim to fame: The Mac that saved Apple, started the USB and translucent plastic crazes
Specs: 233MHz G3, 4GB disk, 256MB max RAM
Price: £999.
Life: Aug 1998-Jan 1999

Power Mac G3 ("Blue & White")

Claim to fame: The first FireWire Mac, the most colourful Pro Mac ever
Specs: 300/350/400MHz G3, 6-12GB disk, 1GB max RAM
Price: £1,069-£2,029.
Life: Jan 1999-Sep 1999

iBook

Claim to fame: Behold, the portable iMac
Specs: 300 MHz G3, 3.2GB disk, 288MB max RAM
Price: £1,299.
Life: Sep 1999-Sep 2000

Power Mac G4

Claim to fame: first G4 Mac, the only Mac to have been reverse-speedbumped.
Specs: 400-500MHz (originally), 350-450 MHz (a few months later) G4, 10-20GB disk, 2GB max RAM
Price: £1,099-£2,399.
Life: Sep 1999-July 2000

Power Mac G4 Cube

Claim to fame: Easily the best-looking Apple failure
Specs: 450/500MHz G4, 20/30GB disk, 1.5GB max RAM
Price: £1,249-£1,599.
Life: August 2000-July 2001

PowerBook G4

Claim to fame: The first G4 PowerBook, the beginning of Apple's current shiny metal fetish
Specs: 400/500 MHz G4, 10/20GB disk, 1GB max RAM
Price: £1,899-£2,499.
Life: Jan 2001-Oct 2001

The iMac (Flat-Panel)

Claim to fame: "The CRT is officially dead."
Specs: 700/800MHz G4, 20-60GB disk, 1GB max RAM
Price: £1,149-£1,599.
Life: Jan 2002-Jan 2003

Power Mac G5

Claim to fame: First G5 Mac
Specs: 1.6Hz -Dual 2GHz G5, 80-160GB disk, 8GB max RAM
Price: £1,549-£2,299.
Life: June 2003-

Compiled by Glen D. Sanford
of www.apple-history.com



Mac Trumps

Play the tech-spec card game that's gripping Macworld

Now you can pit the original Mac (1984's Mac 128K) against today's killer Power Mac G5 – and win! Older Macs will nearly always beat Apple's current range with their higher prices, but will be creamed by our current gigahertz processor speeds and memory capacities.

The rules: First shuffle the deck. Then deal each player his or her cards face down. Players should hold their cards so that they see the top card only. Pick an item from the top card (for example, Maximum RAM) and read it out ("Maximum RAM, 640MB"). The other players then read out their values for the

same item. The person with the highest score wins, and collects all the losing top cards from the other players. These are then placed at the bottom of his or her pile. The winner then chooses an item from their next card.

If two or more cards share the same top score, all the cards are placed in the middle of the table, and the same player chooses again from the next visible card. The winner of that contest then wins all those cards and the ones from the table. The player with all the cards at the end of the game is the winner.

May the best Mac win!



Macintosh 128K

Start: January 1984 Stop: October 1985

Processor speed: 8MHz
Bus speed: 8MHz
Maximum RAM: 128K
Power: 60W
Height: 13.6"
Weight: 16.5lbs
Price: £2,595

Macworld
Mac
Trumps

Processor: 68000
Minimum OS: System 1.0
Maximum OS: System 6.0.8

84 Annie



Macintosh II

Start: March 1987 Stop: January 1990

Processor speed: 16MHz
Bus speed: 16MHz
Maximum RAM: 20MB
Power: 230W
Height: 5.5"
Weight: 24lbs
Price: £3,500

Macworld
Mac
Trumps

Processor: 68020
Minimum OS: System 2.0
Maximum OS: System 7.5.5

87 Uzi, Becks



Macintosh IIsx

Start: October 1990 Stop: March 1993

Processor speed: 20MHz
Bus speed: 20MHz
Maximum RAM: 65MB
Power: 160W
Height: 4"
Weight: 19lbs
Price: £2,530

Macworld
Mac
Trumps

Processor: 68030
Minimum OS: System 7.0.1
Maximum OS: System 7.6.1

90 Ray Ban



Apple Portable

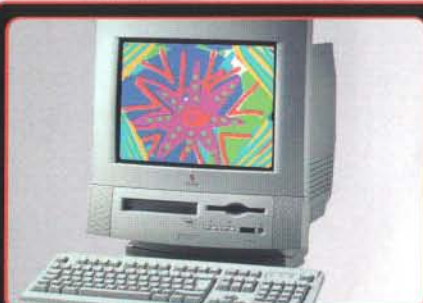
Start: September 1989 Stop: October 1991

Processor speed: 16MHz
Bus speed: 16MHz
Maximum RAM: 8MB
Power: 5W
Height: 4.05"
Weight: 15.8lbs
Price: £3,995

Macworld
Mac
Trumps

Processor: 68000
Minimum OS: System 6.04
Maximum OS: System 7.5.5

89 Riviera



Performa 5200

Start: April 1995 Stop: April 1996

Processor speed: 75MHz
Bus speed: 37.5MHz
Maximum RAM: 64MB
Power: 125W
Height: 17.5"
Weight: 47lbs
Price: £1,526

Macworld
Mac
Trumps

Processor: PowerPC 603
Minimum OS: System 7.5.1
Maximum OS: Mac OS 9.1

95 Bongo



Power Macintosh 6100

Start: March 1994 Stop: October 1995

Processor speed: 60MHz
Bus speed: 30MHz
Maximum RAM: 72MB
Power: 210W
Height: 3.4"
Weight: 14lbs
Price: £1,499

Macworld
Mac
Trumps

Processor: PowerPC 601
Minimum OS: System 7.1.2
Maximum OS: Mac OS 9.1

94 Piltown



Power Macintosh 7100

Start: March 1994 Stop: January 1996

Processor speed: 66MHz
Bus speed: 33MHz
Maximum RAM: 136MB
Power: 230W
Height: 6"
Weight: 25lbs
Price: £2,465

Macworld
Mac
Trumps

Processor: PowerPC 601
Minimum OS: System 7.1.2
Maximum OS: Mac OS 9.1

94 Carl Sagan



Power Macintosh 7500

Start: May 1995 Stop: May 1996

Processor speed: 100MHz
Bus speed: 50MHz
Maximum RAM: 1GB
Power: 150W
Height: 6.15"
Weight: 22lbs
Price: £2,145

Macworld
Mac
Trumps

Processor: PowerPC 601+
Minimum OS: System 7.5.2
Maximum OS: Mac OS 9.1

95 TNT



Power Macintosh 8200

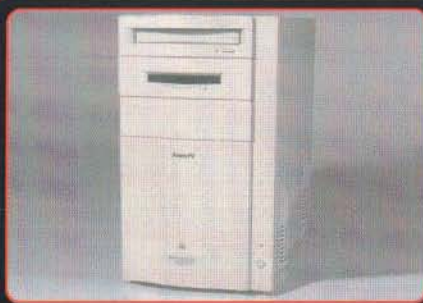
Start: April 1996 Stop: Mid 1997

Processor speed: 100MHz
Bus speed: 40MHz
Maximum RAM: 512MB
Power: 150W
Height: 14"
Weight: 25lb
Price: £1,769

Macworld
Mac
Trumps

Processor: PowerPC 601
Minimum OS: System 7.5.3
Maximum OS: Mac OS 9.1

96 1984-2004



Power Macintosh 8500

Start: May 1995 Stop: Early 1997

Processor speed: 120MHz
Bus speed: 45MHz
Maximum RAM: 1GB
Power: 225W
Height: 14.9"
Weight: 25lbs
Price: £2,879

Macworld
Mac
Trumps

Processor: PowerPC 604
Minimum OS: System 7.5.2
Maximum OS: Mac OS 9.1

95 Nitro



Power Macintosh G3 Desktop

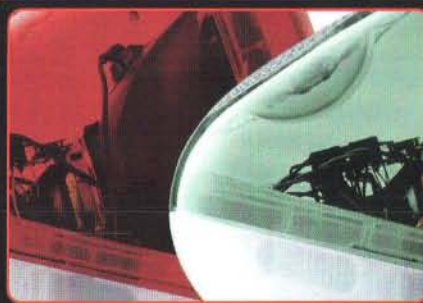
Start: November 1997 Stop: January 1999

Processor speed: 233MHz
Bus speed: 66MHz
Maximum RAM: 768MB
Power: 150W
Height: 15.2"
Weight: 33.1lbs
Price: £2,079

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 8
Maximum OS: OS X 10.3

97 Gossamer



iMac DV+

Start: July 2000 Stop: February 2001

Processor speed: 450MHz
Bus speed: 100MHz
Maximum RAM: 1GB
Power: 150W
Height: 15"
Weight: 40lbs
Price: £999

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 9.0.4
Maximum OS: OS X 10.3

00 1984-2004



PowerBook G3

Start: May 1998 Stop: August 1998

Processor speed: 233MHz
Bus speed: 83MHz
Maximum RAM: 192MB
Power: 45W
Height: 2"
Weight: 7.5lbs
Price: £4,165

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 8.1
Maximum OS: OS X 10.3

98 Wall Street



Power Mac G3 All-in-one

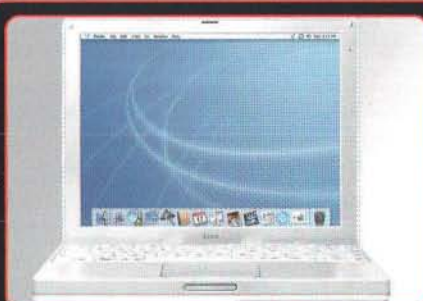
Start: March 1998 Stop: September 1998

Processor speed: 233MHz
Bus speed: 66MHz
Maximum RAM: 768MB
Power: 150W
Height: 19.92"
Weight: 59.5lbs
Price: £949

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 8
Maximum OS: OS X 10.3

98 Artemis



iBook G3

Start: May 2001 Stop: October 2001

Processor speed: 500MHz
Bus speed: 66MHz
Maximum RAM: 640MB
Power: 45W
Height: 1.35"
Weight: 4.9lbs
Price: £935

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 9.1
Maximum OS: OS X 10.3

01 1984-2004

continues page 87





(Exactly how much HTML code you'll need to write by hand.)

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Power Macintosh G3 (B&W)

Start: January 1999 Stop: September 1999

Processor speed: 300MHz
Bus speed: 100MHz
Maximum RAM: 1GB
Power: 200W
Height: 17"
Weight: 28.7lbs
Price: £1,069

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 8.5.1
Maximum OS: OS X 10.3

99 Yosemite



iMac

Start: August 1998 Stop: January 1999

Processor speed: 233MHz
Bus speed: 66MHz
Maximum RAM: 256MB
Power: 80W
Height: 15.8"
Weight: 40lbs
Price: £999

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 8.1
Maximum OS: OS X 10.3

98 Columbus



PowerBook 5300

Start: August 1995 Stop: Late 1996

Processor speed: 100MHz
Bus speed: 33.3MHz
Maximum RAM: 64MB
Power: 45W
Height: 2.2"
Weight: 6.2lbs
Price: £1,799

Macworld
Mac
Trumps

Processor: PowerPC 603e
Minimum OS: System 7.5.2
Maximum OS: Mac OS 9.1

95 M2



PowerBook 150

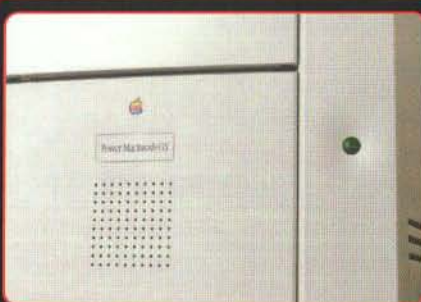
Start: July 1994 Stop: October 1995

Processor speed: 33MHz
Bus speed: 33MHz
Maximum RAM: 36MB
Power: 17W
Height: 2.25"
Weight: 5.8lbs
Price: £939

Macworld
Mac
Trumps

Processor: 68030
Minimum OS: System 7.1.1
Maximum OS: System 7.6.1

94 JeDi



Power Macintosh G3 Tower

Start: November 1997 Stop: January 1999

Processor speed: 233MHz
Bus speed: 66MHz
Maximum RAM: 768MB
Power: 150W
Height: 15.2"
Weight: 33.1lbs
Price: £2,590

Macworld
Mac
Trumps

Processor: PowerPC G3
Minimum OS: Mac OS 8
Maximum OS: OS X 10.3

97 Gossamer



Performa 630

Start: July 1994 Stop: October 1995

Processor speed: 33MHz
Bus speed: 33MHz
Maximum RAM: 36MB
Power: 45W
Height: 4.3"
Weight: 19lbs
Price: £889

Macworld
Mac
Trumps

Processor: 68040
Minimum OS: System 7.1.2
Maximum OS: Mac OS 8.1

94 Crusader



PowerBook 165c

Start: February 1993 Stop: December 1993

Processor speed: 33MHz
Bus speed: 33MHz
Maximum RAM: 14MB
Power: 17W
Height: 2.25"
Weight: 6.8lbs
Price: £3,285

Macworld
Mac
Trumps

Processor: 68030
Minimum OS: System 7.1
Maximum OS: System 7.6.1

93 Monet



20th Anniversary Mac

Start: May 1997 Stop: March 1998

Processor speed: 250MHz
Bus speed: 50MHz
Maximum RAM: 256MB
Power: 140W
Height: 17.25"
Weight: 14.9lbs
Price: £5,759

Macworld
Mac
Trumps

Processor: PowerPC 603ev
Minimum OS: System 7.6.1
Maximum OS: Mac OS 9.1

97 Spartacus



Performa 6400

Start: August 1996 Stop: Mid 1997

Processor speed: 40MHz
Bus speed: 40MHz
Maximum RAM: 136MB
Power: 220W
Height: 16"
Weight: 44.5lbs
Price: £1,733

Macworld
Mac
Trumps

Processor: PowerPC 603ev
Minimum OS: System 7.5.3
Maximum OS: Mac OS 9.1

96 Elixir

continues page 89

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PowerBook Duo 280c

Start: April 1994 Stop: January 1996

Processor speed: 33MHz
Bus speed: 33MHz
Maximum RAM: 40MB
Power: 25W
Height: 1.5"
Weight: 4.8lbs
Price: £2,819

Macworld
Mac
Trumps

94 Yeager

Processor: 68040
Minimum OS: System 7.1.1
Maximum OS: Mac OS 8.1



PowerBook 540c

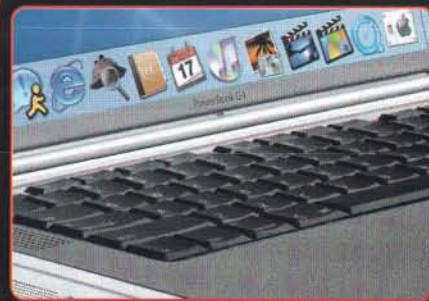
Start: May 1994 Stop: August 1995

Processor speed: 33MHz
Bus speed: 33MHz
Maximum RAM: 36MB
Power: 40W
Height: 2.3"
Weight: 7.1lbs
Price: £3,525

Macworld
Mac
Trumps

94 Blackbird

Processor: 68040
Minimum OS: System 7.1.1
Maximum OS: Mac OS 8.1



PowerBook G4 Titanium

Start: January 2001 Stop: October 2001

Processor speed: 400MHz
Bus speed: 100MHz
Maximum RAM: 1GB
Power: 50W
Height: 1"
Weight: 5.3lbs
Price: £2,230

Macworld
Mac
Trumps

01 Mercury

Processor: PowerPC G4
Minimum OS: Mac OS 9.1
Maximum OS: OS X 10.3



Power Macintosh G4 Graphite

Start: September 1999 Stop: July 2000

Processor speed: 450MHz
Bus speed: 100MHz
Maximum RAM: 2GB
Power: 200W
Height: 17"
Weight: 28.7lbs
Price: £1,099

Macworld
Mac
Trumps

99 Sawtooth

Processor: PowerPC G4
Minimum OS: Mac OS 8.5.1
Maximum OS: OS X 10.3



Power Macintosh G5

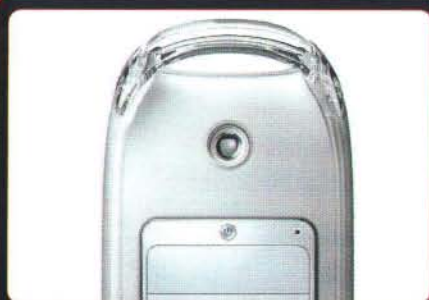
Start: June 2003 Stop:

Processor speed: 2 x 2GHz
Bus speed: 1000MHz
Maximum RAM: 8GB
Power: 700W
Height: 20.1"
Weight: 39.2lbs
Price: £2,299

Macworld
Mac
Trumps

03 1984-2004

Processor: PowerPC G5
Minimum OS: OS X 10.2.7
Maximum OS: OS X 10.3



Power Mac G4 Quicksilver

Start: January 2002 Stop: July 2002

Processor speed: 800MHz
Bus speed: 133MHz
Maximum RAM: 1.5GB
Power: 338W
Height: 17"
Weight: 30lbs
Price: £1,350

Macworld
Mac
Trumps

02 Quicksilver

Processor: PowerPC G4
Minimum OS: Mac OS 9.2.2
Maximum OS: OS X 10.3



Power Macintosh G4 Cube

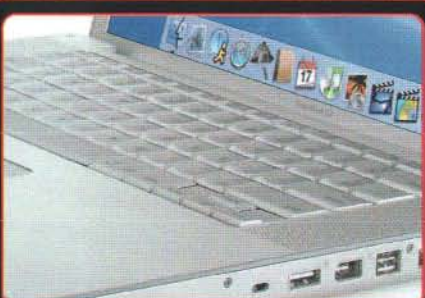
Start: August 2000 Stop: July 2001

Processor speed: 450MHz
Bus speed: 100MHz
Maximum RAM: 1.5GB
Power: 200W
Height: 10"
Weight: 28.7lbs
Price: £1,249

Macworld
Mac
Trumps

00 Trinity

Processor: PowerPC G4
Minimum OS: Mac OS 9.0.4
Maximum OS: OS X 10.3



PowerBook G4 Aluminium 15"

Start: September 2003 Stop:

Processor speed: 1GHz
Bus speed: 166MHz
Maximum RAM: 2GB
Power: 65W
Height: 1.1"
Weight: 5.6lbs
Price: £1,599

Macworld
Mac
Trumps

03 1984-2004

Processor: PowerPC G4
Minimum OS: OS X 10.2.7
Maximum OS: OS X 10.3



eMac

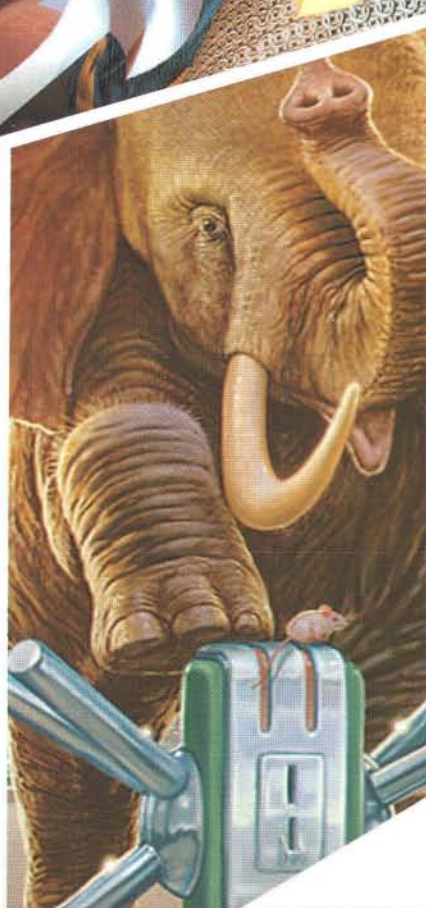
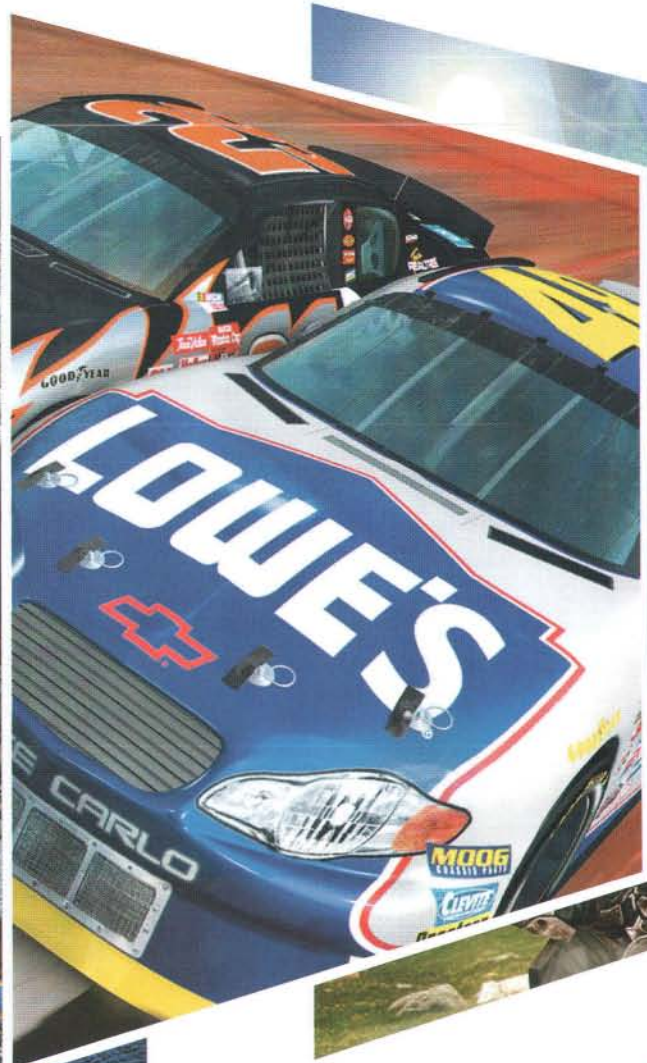
Start: April 2002 Stop: May 2003

Processor speed: 700MHz
Bus speed: 100MHz
Maximum RAM: 1GB
Power: 170W
Height: 15.8"
Weight: 50lbs
Price: £729

Macworld
Mac
Trumps

02 1984-2004

Processor: PowerPC G4
Minimum OS: Mac OS 9.2.2
Maximum OS: OS X 10.3





Game on...

Macworld's Game Hall of Fame 2003. By Peter Cohen



Once again it's time to open the doors of the Macworld Game Hall of Fame. As I walk through the halls, polishing fingerprints off of the brass statues of past inductees and making room for the newest crop of winners, I can't help but look back on the past year with fondness.

Sure, there were a few titles that made me want to give up my joystick forever – I won't name any names. But after all is said and done, 2003 shaped up to be another solid year for games on the Mac. Here are our inductees for this year's Game Hall of Fame.

continues page 92 ▶





Animal magic

If you want to build a serious zoo, or simply watch animals run amuck, Zoo Tycoon is the game for you.



Best use of husbandry

Zoo Tycoon

★★★★/8.0

This real-time strategy game, which lets players build, stock, and maintain their own zoo, emerged mid-year and quickly became one of our favourites – thanks in part to a feature that lets you knock down the walls of zoo exhibits. Nothing releases a little pent-up aggression like watching your lions and tigers eat demanding zoo patrons.

Zoo Tycoon combines the voyeuristic thrill and strategic planning of Sim City with a nice dose of learning. As you build your zoo, you'll learn about the animals' natural habitats and what they need to keep happy and healthy. Do the job well, and you'll make the park a fun place for patrons to spend money – and perhaps earn a small fortune. Do it poorly, and your zoo may be shut down for animal cruelty.

What's cool:

A recently released Marine Mania expansion pack lets you add oceanic critters and dinosaurs to the mix.

Who it's for:

Any would-be Jonny Morris or strategy-game fans who'd like to run their own wildlife safari.

From:

Softline, 01883 745 111; £39.99.



Best way to kick PC-gamers' butts

Unreal Tournament 2003

★★★★/8.5

MacSoft sure took its sweet time getting Unreal Tournament 2003 (UT 2K3) into the hands of Mac gamers, but the wait was worth it. Chock full of death and dismemberment, this unapologetically aggro first-person shooter is brimming with mayhem.

Like its wildly popular predecessor, UT 2K3 lets you wield a variety of weapons as you participate in futuristic gladiatorial combat. But this time around, the graphics are better, the action is faster, and the contestants are tougher.

The best part of this game, of course, is playing online against a server full of PC gamers, blasting them to smithereens, and then letting them know you're playing on a Mac.

What's cool:

Hacking the game's INI file to maximize performance on your Mac – for example, you can reduce the number of active audio channels (see our October 2003 issue for details).

Who it's for:

The Gatorade-swilling crowd.

From:

Softline, 01883 745 111; £39.99.



Best unpronounceable game

Noiz2sa

★★★★/8.0

Having grown up on a hearty diet of classic arcade games, I'd happily trade in my 3D graphics for a good 2D shoot 'em up (or 'shmup' in gamers' parlance) almost any day of the week. So game developer Kenta Cho has a special place in our hearts for distilling classic 2D shooters down to their very core and turning them into wonderful, abstract, psychedelic – and just plain weird – games. Noiz2sa is a perfect example.

A follow-up to Cho's earlier rRootage, Noiz2sa has players flying over a scrolling landscape and firing at everything. The game eschews colourful, cartoonish graphics for a minimalist presentation with an allure all its own: ships, bullets, missiles, and laser beams are all represented by simple geometric shapes. Once the bullets start flying, you'll be hypnotized the action. Put simply, Noiz2sa is a visual extravaganza in motion. You have to see it to believe it.

What's cool:

People at Starbucks tapping you on the shoulder while you're playing Noiz2sa and begging for details about where to find the game.

Who it's for:

People who have a library of console shmups and wish there were more of these games on the Mac.

From:

Kenta Cho, www.victory.com/~adam; free.



Best celebrity endorsement

Tiger Woods PGA Tour 2003

★★★★/8.5

Spectacularly rendered golf courses and stunningly realistic character animation alone aren't what earn this Mac golf title a spot in the Game Hall of Fame.

That credit belongs to TrueSwing – an intuitive swing-control system that really puts players in the game. The visages of Tiger Woods and other well-known PGA golfers are icing on the cake.

Tiger Woods PGA Tour 2003 features a Career mode that lets you move up the rungs of the PGA ladder. Other PGA golfers will even challenge you to games of skill that will test your mettle and put money in your pocket – if you win.

The second of two major golf games reviewed by Macworld this past year, Tiger Woods was truly the superior game – notwithstanding a few graphical glitches on certain Mac configurations. In fact, it looks better, plays better, and offers more challenges than any Mac golf game we can think of.

What's cool:

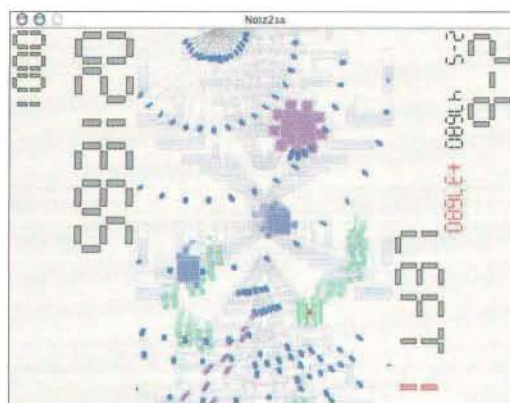
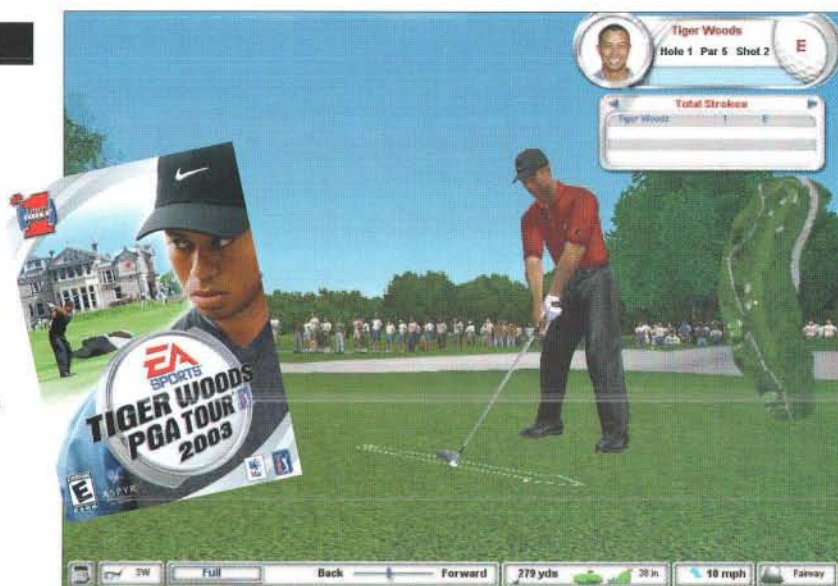
Watching Tiger get more and more frustrated as he keeps dudding easy shots.

Who it's for:

People who took that "I am Tiger Woods" commercial seriously.

From:

Softline, 01883 745 111; £39.99.



Kaboom! (Left)

Noiz2sa is as addictive as it is simple – if it moves, shoot it. If it doesn't, shoot it anyway.

Best game and controller combination

NASCAR Racing 2003 Season, and Logitech MOMO Racing Wheel

★★★★/8.8; ★★★★★/8.2

For some games, it doesn't matter whether you use the keyboard or a game controller – the experience is about the same. But for others, the difference is night and day. NASCAR Racing 2003 Season is such a game. It's also the swan song of a terrific game franchise that carefully simulates what it's like to muscle a roaring NASCAR racing vehicle around real-world tracks.

People unfamiliar with the sport may not see much challenge in NASCAR driving – after all, you're just taking left turns continuously, right? No, not by a long shot. Riding in bumper to bumper traffic on the freeway is one thing, but at 190 miles per hour, it's a whole different story. Careful fuel management, listening to cues from your pit crews, and keeping an eye on your gauges and other drivers all add up to a nail-biting experience that won't let you look away from the screen for even a moment – unless you want to end up as roadkill.

NASCAR Racing 2003 Season earns extra points over its 2002 Season predecessor, thanks to an updated driver, a team and sponsor roster, all 23 real-world NASCAR tracks, and a dramatically reworked physics engine. These features, along with new graphics and AI improvements, make the game even more realistic and challenging than before.

But to really experience the true power of this game, you'll need Logitech's Momo Racing Wheel. NASCAR's new support for force feedback brings a completely different level of realism to the game by making the wheel shimmy and shake as you plow your souped-up sled at ridiculous speeds around the track.

What's cool:

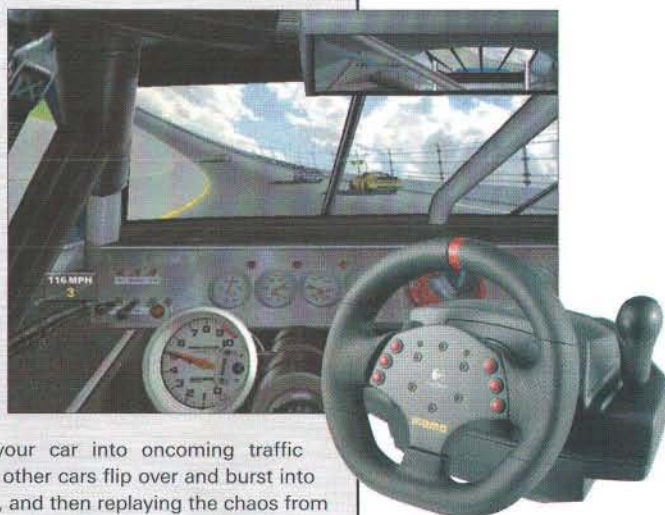
Being able to take a U-turn out of pit row and ploughing your car into oncoming traffic just to watch the other cars flip over and burst into smoke and flame, and then replaying the chaos from different angles.

Who it's for:

Jeff Gordon wannabes.

From:

Softline, 01883 745 111; £34.99.
Logitech, www.logitech.com; £89.99.



continues page 95





Best use of the Force

Jedi Knight II: Jedi Outcast

★★★★/8.6

The Star Wars and Star Trek movie franchises have both fallen victim to a wealth of mediocre – and at times, utterly craptastic – games. But not so with Aspyr

Media's Mac conversion of Jedi Knight II: Jedi Outcast. Based on the Quake III: Arena engine, Jedi Knight II lets you control Kyle Katarn, a Jedi bad boy who's turned to mercenary work to keep food on the table.

Although Jedi Knight II uses a few tricks we've seen before – Max Payne's Bullet Time slow-motion mode, for example – it uses them in ways that don't feel hackneyed or, pardon the pun, forced. Best of all, when you tire of the single-player mode, you can enter online arenas and pit your skills against other Mac and PC players.

What's cool:

Getting to slice and dice with a lightsaber.

Who it's for:

People who wish that Darth Vader was their father.

From:

Softline, 01883 745 111; £39.99.

Best military training

Tom Clancy's Ghost Recon: Desert Siege

★★★★/8.4

Squad-based military games are odd ducks: they aren't quite action games, and they aren't quite strategy games. They are, however, incredibly challenging and complex simulations of real-life military exercises. And this year, Aspyr brought an outstanding example of this genre to the Mac.

In Tom Clancy's Ghost Recon, you're in charge of a team of elite commandos called Ghosts. With each mission, you must complete a series of objectives and get your team out alive. There are secondary goals, too, which will raise your status as a covert ops hero if completed in time. Although the game is set in the future, the weapons and situations – such as quelling East African unrest or putting an end to an uprising in Russia – are definitely current.

Ghost Recon gives you more action and requires less planning than past Tom Clancy games, so there's a quicker payoff for the attention-deprived player. Improved graphics and realistic sound effects add to the sense of immersion. (The game even has samples of birdsongs from the areas you visit.) And kudos to Aspyr for bundling both the original Ghost Recon game and its expansion pack, Desert Shield, together in this combo.

What's cool:

Taking over a fellow commando's body to get the job done.

Who it's for:

Folks who'd rather be in Tom Clancy thrillers than read them.

From:

Softline, 01883 745 111; £39.99.

Best place to get classic games

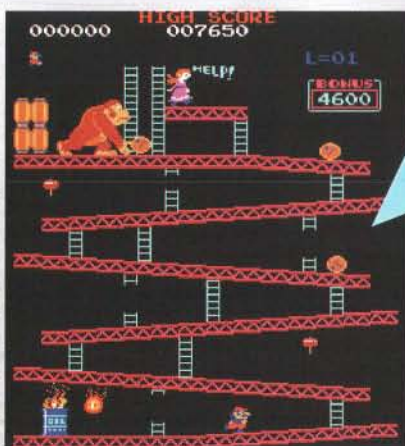
In 2003 we reviewed MacMAME (Mac Multiple Arcade Machine Emulator, www.macmame.org), a free emulator that revives classic arcade machines from the 70s, 80s, and 90s on your Mac – much in the same way that VirtualPC emulates a Windows-compatible computer. But although MacMAME emulates the technology underlying arcade games, it doesn't actually include the games themselves. For that, you need ROM image files culled from the arcade game's original chips.

Until recently, MacMAME users who wanted to get these ROM files had two options: Buy the original arcade games and use Byzantine equipment to read the data; or download ROM files from the Internet via pirate Web sites and peer-to-peer services. The former is a daunting, time-consuming, and expensive process, while the latter is an easier and cheaper, but more legally precarious, approach.

But now a company has stepped in to give gamers legal and easy access to game ROMs. Based on the same concept as Apple's iTunes Music Store, StarROMs. (www.starroms.com) sells vintage arcade game ROMs that work with MacMAME and its kin. The company kicked off last October with dozens of ROMs from classic Atari arcade games such as Missile Command, Tempest, Asteroids, and others.

As we went to press, the selection on StarROMs' Web site was limited to Atari games. However, with dozens of classics to choose from, there should be enough to keep even the most ardent arcade enthusiast busy for hours. The company says it plans to flesh out its selection once deals with other licence holders are finalized.

ROM files will cost you anywhere from \$2 to \$6 – a small price to pay to own a legitimate piece of gaming history. You can get an even better deal by purchasing StarROM credits – the coin of StarROM's realm, which is billed to your credit card – in bulk. Once you buy the games, they're yours to keep. There are no digital rights management restrictions, as there are with music you buy through the iTunes Music Store.



continues page 96



AS A MANAGER YOUR
ONLY LOVE IS YOUR CLUB



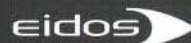
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Micro Anvika



Best recycled idea

ThinkTanks

★★★★/8.1

Here at the Game Hall of Fame, I often find myself reminiscing about the 1980s – the golden-age of coin-operated video games, and a time when a game's graphics could easily be duplicated on fabric by any neophyte cross-stitcher. One of the all-time classics of that era was *Combat*, an Atari 2600 game that placed you and a friend in tanks on opposite sides of a 2D battlefield. This game was the inspiration for Bravetree Productions' *ThinkTanks*.

ThinkTanks puts you in the turret of a metal machine and sends you across a 3D battlefield to take on anyone who crosses your path – online or on your own computer. Strategically placed power-ups charge your cannon with special abilities, while jump pads let you snatch a brief bird's-eye view of the battlefield. It's an old concept smartly updated for gamers whose graphical tastes tend toward *Unreal Tournament*, but who still have a hankering for simple game play.

What's cool:

Being able to run your own multiplayer server from your Mac.

Who it's for:

People who get a twinge of nostalgia when they see the black, rubbery, single-button joystick of the Atari 2600 in video-game retrospectives.

From:

GarageGames, www.garagegames.com; \$20. (Buy online.)

Best hacking and slashing

Dungeon Siege

★★★★/8.4

As much as we wanted to love the long-awaited Mac release of *Neverwinter Nights* and as much as we admire *Geneforge 2*'s deep and varied storyline, the Mac dungeon crawl that captured our hearts and minds most thoroughly this year was MacSoft's *Dungeon Siege*.

Best described as an action and strategy game with role-playing elements, *Dungeon Siege* breaks the role-playing-game (RPG) mould by offering greater game-play variety. *Dungeon Siege* combines RPG fun – collecting stuff and levelling up your character with new abilities – with heavy doses of action that encourage you to use squad-based strategy. Add an innovative graphics engine that doesn't make you wait for levels to load every time you visit a new location, and you've got hours of hacking and slashing to relish.

What's cool:

A pack mule that can carry tons of supplies, but has a habit of running away from battle.

Who it's for:

Players looking for a successor to Blizzard's *Diablo* series.

From:

Softline, 01883 745 111; £39.99.



Best great game made greater

Warcraft III: The Frozen Throne

★★★★/8.7

Expansion packs too often fall into the trap of just padding their original games with more content and fluff, but not offering anything substantive. Not so with *Warcraft III: The Frozen Throne*. This official add-on to 2002's *Warcraft III: Reign of Chaos* makes an already good game even better.

As a role-playing strategy game, *Warcraft III* puts you in charge of heroes for each of four races that populate the war-torn world of Azeroth. The *Frozen Throne* adds an additional single-player campaign that starts off where the first one ended.

You'll also find tons of new objects, units, and other goodies – including a new level-editor for folks who want to make their own mods. And *The Frozen Throne* offers new depth when you go head-to-head against PC and other Mac gamers online through Blizzard's free Battle.net matchmaking service.

If you've somehow missed *Warcraft III* all together, Blizzard has now put the original game and the expansion pack together – along with a pair of strategy guides to help you along – in a package called the *Warcraft Battle Chest*.

What's cool:

Replaying the game from the beginning and finding new ways to win.

Who it's for:

Players who just can't get enough of *Warcraft III*.

From:

Softline, 01883 745 111; £19.99.



Think different
ThinkTanks is a re-imagining of a
cult 80s shoot 'em up – and it
loses none of the original's charm
or addictive gameplay.

Best sense of humour

The Operative: No One Lives Forever

★★★★/8.0

Many games can take themselves way too seriously. So when MacPlay released *The Operative: No One Lives Forever*, it was a welcome respite from the usual posturing and pontificating. Brandishing a corny sense of humor and outrageous, tongue-in-cheek caricatures, *The Operative* mixes first-person shooter game play with sixties-era style. In it, you assume the role of Cate Archer, an undercover agent charged with foiling the efforts of an evil underground group bent on world domination.

Although its graphics look a bit dated, *The Operative* is a whole lot of fun. It definitely kept me laughing. And like classic spy movies, just when you think you've seen it all, there's another stunt to challenge you. It's one part James Bond, one part *The Avengers*, and a dash of Austin Powers – served up shaken, not stirred.

The Operative: No One Lives Forever 2 should be hitting the shelves around the time this issue lands in your hands.

While we haven't had a chance to put it through its paces, the sequel has the same trappings that made this first installment so much fun, with dramatically improved graphics

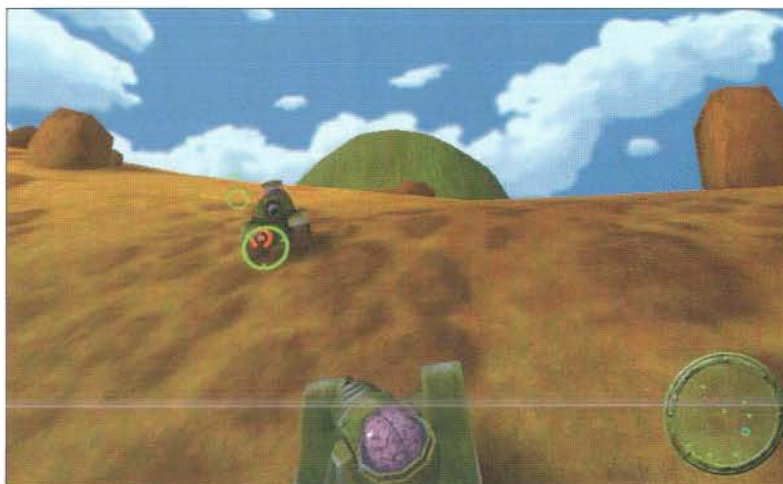
and other embellishments that should make

it worth keeping an eye on.

What's cool: The nifty Sixties-era lounge music, included in the box as an audio CD.

Who it's for: Anyone who's ever dreamt of being (or being with) Emma Peel.

From:
 Softline,
 01883 745 111;
 £39.99. **MW**



On the horizon

Although these titles arrived too late to be considered for this year's Hall of Fame, they certainly have us on the edge of our seats. In fact, all of these games should hit store shelves just in time for the shopping season.

Halo

Few who witnessed Halo's debut at the 1999 Macworld Expo keynote speech would have believed it would be 2003 before MacSoft finally got the game into the hands of Mac users.

If you've already played Halo on an Xbox, you can expect a very different experience on the Mac. For one thing, it looks much better thanks to high-resolution support (for settings as high as 1,600-x-1,200) and pixel-shading technology found in newer graphics cards. Pixel shading provides more-realistic lighting and reflection details.

Halo also sports a new weapon, new vehicles, new maps, and several customizable multiplayer games – including PC-to-Mac multiplayer gaming support.

Unreal Tournament 2004

The Mac version of *Unreal Tournament 2003*, from MacSoft, may have arrived more than half a year after its PC counterpart, but the next installment is shipping at almost the same time. The latest edition of this futuristic arena combat series offers new game play modes, weapons, player models, and vehicles.

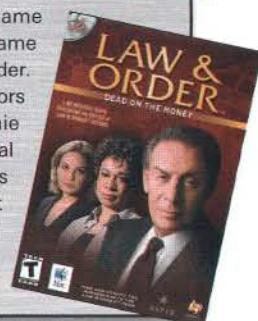
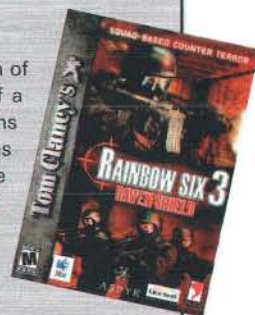
Favourite features included with the original *Unreal Tournament* but missing from UT 2K3 – for example, the Assault mode, where players try to achieve mission objectives – will make a comeback in UT 2K4. And fans of long-range shooting will be happy to have the Sniper Rifle back in their arsenal.

Tom Clancy's Rainbow Six 3: Raven Shield

If you like *Ghost Recon*, take a look at Aspyr's Mac conversion of Tom Clancy's *Rainbow Six 3: Raven Shield*. As the leader of a special operatives unit called *Rainbow*, you'll lead missions against a hidden terrorist threat as you travel to locales such as London, the Caribbean, and Rio de Janeiro. Also keep an eye out for Tom Clancy's *Splinter Cell*, which puts you in the role of a stealthy undercover operative working for the US government.

Law & Order: Dead on the Money

For something totally different from just about any game we've discussed this month, there's Aspyr's 3D mystery game based on the popular US television drama series *Law & Order*. The game features the faces and the voices of the actors you know from the show. You'll help Detective Lennie Briscoe collect evidence and information about a Central Park murder, and then you'll present those findings to Lieutenant Anita Van Buren. Once you have a suspect in custody, it's up to you to help Assistant DA Serena Southerlyn build a compelling case worthy of a guilty verdict.





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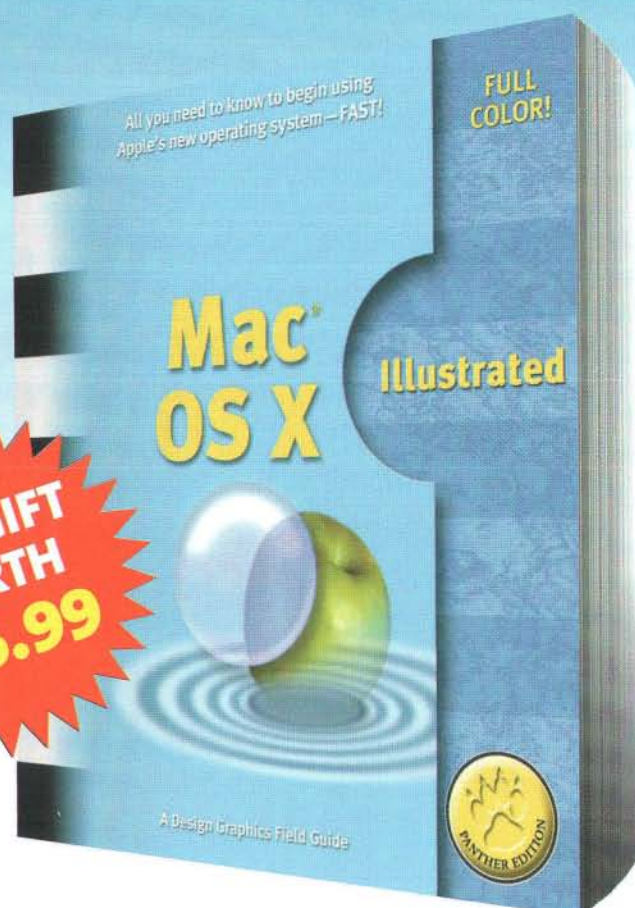


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Easy Mac maintenance

Run your Mac's self-repair routines automatically. **By Dan Frakes**

Just like your car, your Mac needs routine maintenance in order to run smoothly. Unlike your car, your Mac can perform some of this maintenance on its own. Two important tasks to perform regularly are Disk Utility's Repair Permissions and OS X's Unix maintenance scripts.

Repair Permissions ensures that system-level files have the correct privileges set; this is important because incorrect permissions can prevent applications from launching, cause problems with printing, and even affect startup. OS X's Unix maintenance scripts perform tasks that free-up disk

continues page 102

Schedule repair permissions

Meet cron

1 To automate an action with cron, you need to open a crontab (a cron table, or schedule) and then create a new entry – much as you'd create a repeating calendar appointment – that tells cron what to do and when.

CronniX gives you an easy-to-use interface for working with crontabs. Launch CronniX and then choose File: Open System Crontab. (Because these are system-level tasks, you're going to edit the system-level crontab; however,

users also have individual crontabs.)

You'll notice that the default crontab (A) already has three entries; I'll talk about them later. Right now, you want to create a new entry, so click on the New button. The resulting schedule window (B) lets you create a schedule for the desired action and then designate that action.

I run Repair Permissions once a week, Friday mornings at 10:15am. (Whatever day and time you choose, make sure it's a time when your Mac will be on and awake.) Using my setup as an example, enter **15** in the Minute field and **10** in the Hour field (cron uses the 24-hour clock).

These two fields tell cron to execute this action at 10:15 am. The Month and Day Of Month options are unimportant, so put a checkmark in those options' boxes, or type an asterisk (*) in the value field – this tells cron to execute the event for any value of these fields.

Finally, select the Fr (for Friday) option.

Tell cron what to do

2 Next you need to tell cron what you want it to do at the specified time. Although you can run Repair Permissions from Disk Utility, you can also run it from Terminal via a Unix command; this is the command we'll tell cron to run.

In the Schedule window's Command

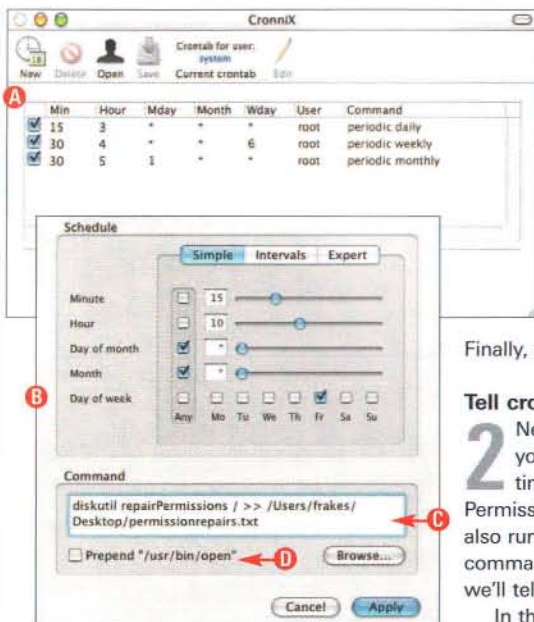
field (C), first erase the example contents, and then type the following line: `diskutil repairPermissions /`

The slash (/) indicates that you want to run Repair Permissions on the startup volume. This command doesn't give you any feedback; when you run Repair Permissions from Disk Utility, you get a report of the repairs it makes. I like to see this report, so I've used the following command instead (it should all be on one line, and case is important): `diskutil repairPermissions / >> /Users/user name/Desktop/permissionrepairs.txt`

(Replace user name with your user name.) Now your Mac will save a text report of repairs on the Desktop.

Make sure the Prepend "/usr/bin/open" option (D) isn't selected, and then click the New button to create the new event. Your new scheduled event will appear in the crontab. To test it, select it and then choose Task: Run Now. If all goes well (and if you've elected to save a report), the report should show up on your desktop after the utility has repaired permissions (this takes a few minutes).

Before exiting CronniX, click Save to keep the changes you made to the crontab. CronniX will ask for your administrator user name and password to verify that you have permission to make system-level changes. Your new crontab entry takes effect immediately. Repair Permissions will run in the background at the specified time, without your having to lift a finger.

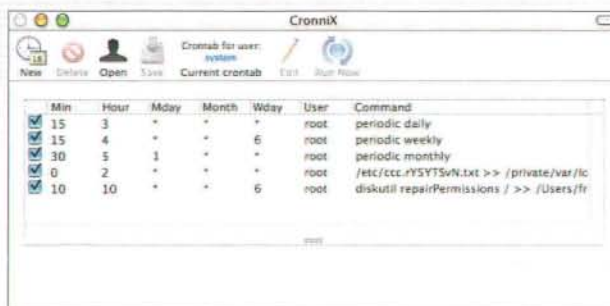


Ever-vigilant cron

If you don't have a Unix background, the cron utility is most likely foreign to you. However, it's one of the simplest and most useful Unix utilities you'll find in OS X. Cron runs in the background whenever your Mac is on. Every minute, it checks schedules called crontabs to see whether any command or script is supposed to run. If so, it runs them. If not, it takes a nap for 60 seconds, then checks again, and so on.

Anything you can do via a Terminal command, Unix shell script, or Mac OS AppleScript, you can run via cron at a specific day, date, and time. (The step-by-step section of this column provides you with a couple of good examples; for others, see "Put AppleScripts on a schedule".) You can even perform simple actions such as launching an application or opening a document (using the Terminal command `open`).

Crontabs – the schedules that tell cron what should run and when – are located in the invisible `/etc/crontab` directory, for the system crontab, and `/var/cron/tabs`, for user-specific crontabs. (Although we're editing the system-level crontab in this article because we're performing system-level tasks, you should generally edit only your own user-level crontab.) The crontab format is a bit messy. Each event consists of a single line with values for the minute,



Min	Hour	Mday	Month	Wday	User	Command
<input checked="" type="checkbox"/>	15	3	*	*	root	periodic daily
<input checked="" type="checkbox"/>	15	4	*	6	root	periodic weekly
<input checked="" type="checkbox"/>	30	5	1	*	root	periodic monthly
<input checked="" type="checkbox"/>	0	2	*	*	root	/etc/cct.rSYTSvN.txt >> /private/var/ic
<input checked="" type="checkbox"/>	10	10	*	6	root	diskutil repairPermissions / >> /Users/fr

hour, day of month, month, day of week, user name, and command. For example, the default crontab entry that runs OS X's weekly maintenance script is `15 4 * * 6 * root periodic weekly`.

This entry tells cron that at 4:15am every Saturday (the sixth day of the week – the week starts on Monday), regardless of the month or the day of the month, the root user should run the periodic weekly command. At 4:15am Saturday morning, cron finds a match for that entry and then runs the command. User-specific crontabs omit the user name variable, since all events in a user's crontab are executed as that user.

You can view the system-level crontab by typing `cat /etc/crontab` in Terminal; likewise, you can edit crontabs in Terminal with the `crontab` command. However,

viewing and working with crontabs in Terminal gets messy, and a utility such as CronniX makes the process easier. CronniX lets you access your own user-level crontab or, assuming your account has administrative access, the system-level (root)

crontab. Entries for the chosen crontab are displayed in a format similar to Terminal's, but with labelled columns that you can rearrange if you find them easier to read in a different order. You can also create a new entry (via the New button), delete an entry (by selecting it and clicking on Delete), enable or disable any entry, or click on the Edit button to edit the selected entry. When you're done, click on the Save button to save changes, which take effect immediately. CronniX also lets you run a particular entry on cue (via the Run Now button). To view a different crontab in CronniX, choose Open For User or Open System Crontab from the File menu.

To learn more about cron, read the cron manual (type `man cron` in Terminal) or visit the CronniX Web site at www.kochschmidt.de/cronniX/docs/index.html.

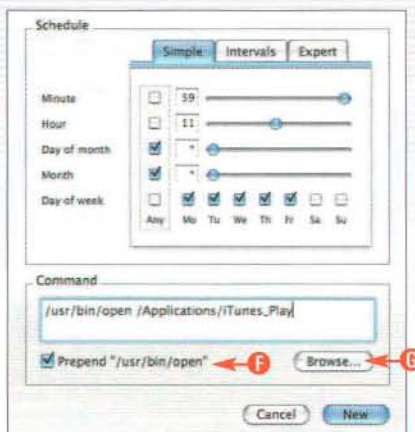
Put AppleScripts on a schedule

After reading the main article, you should know how to use cron to run Unix scripts and commands. It's just as easy to launch OS X applications and AppleScripts.

Launch CronniX and open your user-level crontab by choosing File: Open For User and then typing your user name.

Create a new event by clicking on the New button. Schedule the event as you did in the main article – choose the days, dates, and time you want the application or AppleScript to launch. However, in the Command area of the schedule window, delete the example text and select the Prepend `/usr/bin/open` option (F).

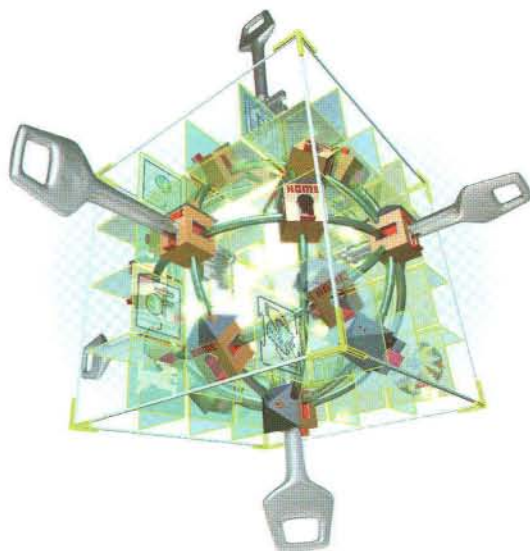
Click on the Browse button (G). Using the file dialog box, navigate to the application or AppleScript you want to run at the designated time(s). In the example shown here, I've chosen an AppleScript I wrote that launches iTunes and then tells it to begin playing music. I've scheduled this AppleScript to run just before noon on weekdays – perfect for reminding me that it's time to go to lunch. Click on the New button



The 'Schedule' window has three tabs: Simple, Intervals, and Expert. The 'Simple' tab is active. It shows fields for Minute (39), Hour (11), Day of month (*), Month (*), and Day of week (Any). Below these is a 'Command' field containing `/usr/bin/open /Applications/iTunes_Play`. At the bottom, there is a checkbox for 'Prepend "/usr/bin/open"' which is checked, and a 'Browse...' button next to it. There are also 'Cancel' and 'New' buttons at the bottom.

to create your new crontab entry. Then click on Save to save your edited crontab.

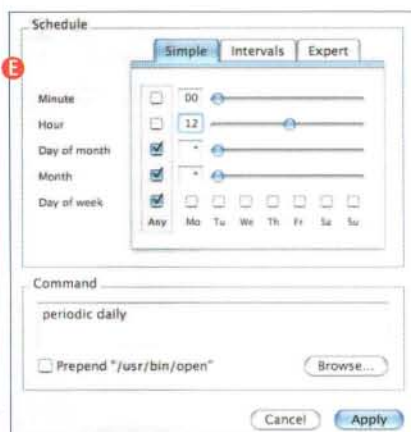
Because this is your user-level crontab, it will execute some events, particularly those that work with applications, only when you're logged in to your account. This is convenient for me, as I don't want my iTunes alarm event to run when someone else is using my Mac!



Schedule the scripts

Edit daily schedules

1 OS X comes with three Unix maintenance scripts – daily, weekly, and monthly – which you see in the default system crontab. These scripts are already scheduled to run on a daily, weekly, and monthly schedule, respectively. However, because of a long Unix history we won't get into, the default times (the daily script runs at 3:15am; the weekly, at 4:15am on Saturday; and the monthly, on the first day of each month at 5:30am) mean that the scripts will never run for Mac users who shut down their Macs or put them to sleep at night.



Utilities such as Brian Hill's free MacJanitor (http://personalpages.tds.net/~brian_hill/macjanitor.html) and Atomic Bird's \$8 Macaroni (www.atomicbird.com) let you manually run these scripts or periodically check to see whether they've run, but it's more convenient to adjust the schedules so the scripts run when your Mac is likely to be awake. You'll use CronniX again, but this time, you'll edit the existing entries for the daily, weekly, and monthly scripts.

In CronniX, open the system-level crontab. In the Command column, you'll see the three cron events that run these scripts.

Select the daily (here, periodic daily) entry and click on the Edit button. In the schedule window that appears (E), change the Minute and Hour fields from 15 and 3, respectively, to a time when your Mac is generally on and awake. I changed mine to 12 pm, when I'm often at lunch, by entering 00 in the Minute field and 12 in the Hour field. (Leave the other fields alone, since you still want the script to run every day.) Click on Apply to save your changes.

Edit weekly schedules

2 Now you'll alter the weekly day and time. Select the entry for the weekly script and click on Edit. If you don't typically use your Mac on weekends, deselect the Sa (for Saturday) option and select one of the week-day options. Then edit the Hour and Minute fields to reflect a time when your Mac will be on and awake. (Avoid choosing the same time you used for the daily script.) Click on Apply.

Edit monthly schedules

3 Making your final change to the monthly schedule is a bit trickier. Since the monthly script is set to run on the same date each month, if the chosen date happens to fall on a weekend and your computer isn't running on weekends, the script won't run. For this reason, you should create two crontab entries for the monthly script.

Select the entry for the monthly script and click Edit. I recommend keeping the Day Of Month field set to 1 (which means the script will run on the first day of every month). Enter appropriate Hour and Minute values, just as you did for the daily and weekly scripts. (I use 12:45pm) Click Apply to save changes.

Next, select the entry you just edited in CronniX and choose Edit: Duplicate Task. Select the duplicate entry, click Edit, and then change the Day Of Month field to a different day. I recommend 5 – since

it's impossible for both the first and fifth days of any month to fall on a weekend, this ensures that your monthly maintenance script will run the first week of every month. (In some months, both of these dates will fall on weekdays, meaning the script will run twice. Don't worry – this does no harm.) Click Apply.

Don't forget to save

4 You're almost ready to sit back and let the scripts do your maintenance work. Click Save and then provide your admin user name and password. Your edits will take effect immediately and your maintenance scripts will run during normal working hours. If you've been using Mac OS X for a while and you've never run these scripts, you could gain a significant amount of hard-drive space the first time they run because of their cleaning actions.

5 **More maintenance** Running Repair Permissions and the maintenance scripts regularly will go a long way toward maintaining smooth operations on your Mac, but they don't fix everything. You should also run Disk Utility's Repair Disk once a month or so, on both your startup drive and any additional volumes. Repair Disk checks your hard drive for damage and directory problems; such damage, if it's serious enough, can prevent your Mac from even booting. It's also a good idea to occasionally run a more advanced disk-repair utility such as Alsoft's £70 (including VAT) DiskWarrior (www.alfsoft.com) to ensure that your disk's directory is in tip-top shape.

Keeping your Mac running smoothly needs some work, but automating some of the tasks as described here, and maintaining a regular schedule of disk care, should grant you a stabler, more trouble-free experience in the long run.

space and keep the OS tidy by updating and backing up databases, cleaning out temporary files, and cleaning up system logs.

You should run Repair Permissions and the maintenance scripts when you boot your Mac into OS X. However, instead of having to remember to do these tasks yourself, you can tell your Mac to do them for you, using the built-in Unix utility cron and the CronniX utility (donations accepted; www.koch-schmidt.de/cronnix/). **MW**

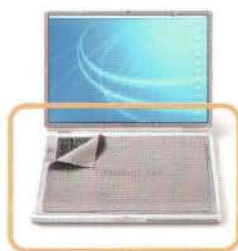
DAN FRAKES is an editor at MacFixIt.com and the author of Mac OS X Power Tools (Sybex, 2003); he can be tracked down at www.danfrakes.com.



OS X's Unix maintenance scripts perform tasks that free-up disk space and keep the OS tidy by updating and backing up databases, cleaning out temporary files, and cleaning up system logs.

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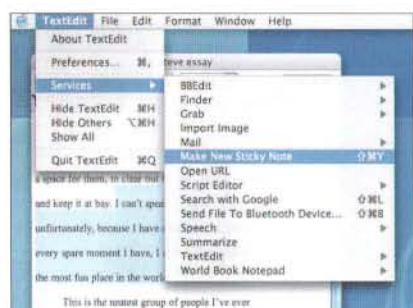
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Full service

Don't overlook Mac OS X's Services feature. By Dan Frakes



If you're like most Mac users, you've probably never taken advantage of OS X's services – systemwide shortcuts that let you use one application's abilities from within another. If this is the case, you're missing out on a great productivity tool. Services, which are available from the application name: Services submenu, let you work quickly with text, graphics, files, folders – almost any kind of content. More specifically, they allow you to draw on the powers of another application if the one you're working in doesn't provide the tools you need.

Services in action You have to see services in action to really appreciate them. To take advantage of them, you select the desired content and then choose a service from the submenu.

Say someone emails you directions to a party, and you want to create a Stickies note with that information. You could highlight the text in Mail, copy it, launch Stickies, open a new note, and paste the text into the note. But with services, you can simply highlight the text and select Mail: Services: Make New Sticky Note. (Or in this case, press ⌘ -shift-Y; many services have their own keyboard shortcuts, which are listed next to the service name in the menu.)

Or perhaps you're browsing a Web site in Safari and you want to copy some text to a new TextEdit document. Just highlight the text, and then select Safari: Services: TextEdit: Open Selection. What if you want to add a screenshot to a TextEdit document? Instead of taking the

shot, finding it on your desktop, and dragging it to TextEdit, place the cursor where you want the screenshot to appear in the document, and select TextEdit: Services: Grab: Screen (or Selection, if you want only part of the screen). Grab will take the screenshot and insert it into your document.

Another interesting example is the Summarize service, which will reduce a

large block of text – an online news article, for example – to a brief summary. Select a large text passage in a program that supports services, such as TextEdit, Safari, or Mail, and then select application name: Services: Summarize. A summary of the selected text will appear in a new window. You can even decide how compact the summary should be. Once you're satisfied, you can copy the summary for use in another app. I've found that the summaries this service generates are often surprisingly accurate.

TIP: If you find the Services submenu cumbersome, Nicholas Riley's free utility ICeCoffeeE (★★★★/8.0; "Software Bargains," June 2003), lets you add a Services menu to the menu bar and/or to your systemwide contextual menus. Download it from <http://web.sabi.net/nriley/software/>.

Expanding your services

The previous examples demonstrate OS X's built-in services, but the real power of the services system lies in its expandability. Applications can add their own services, and you can install third-party services packages.

Application Additions Placing an application in your Applications folder will make its services available the next time you log in. Select Go To Folder from the Finder's Go menu, enter /Applications, and click on Go to open the Applications folder. (If you delete an application, its services will disappear when you next log in.)

For example, if you often gather text for research, a number of information databases, such as Devon Technologies' £21 Devonthink (www.devon-technologies.com), provide services that let you select text in any application and then quickly add it to your database as a plain-text or rich-text note. (It can even summarize long passages of text.) Using these services, you can reduce a five- or six-step process to just one or two.

Likewise, applications such as Bare Bones Software's BBEdit, Apple's Safari, and The Omni Group's OmniDictionary have their own services for working with text, opening URLs, and looking up word definitions, respectively.



In time for the holidays

Looking for something special to give to the hard-working Mac users in your life? The Memix Mega Memory Watch (reviewed September 2003, page 56) will be welcome in any Christmas stocking. Available in 128MB and 256MB versions, it's way cooler than a plain old hard drive on a keychain – the gadget is a tiny drive and a working watch. Tell the time while downloading MP3s, holiday-party photos, or office papers. The USB plug tucks into the band. It's available online from www.memixdirect.com, for £79 including VAT.

Scholle Sawyer McFarland

Standalone services To install a services package that isn't associated with any application and make it available to all users of your Mac, put it in the Services folder inside your general Library folder. Select Go To Folder from the Finder's Go menu, enter /Library/Services, and click on Go to open the Services folder inside this Library folder. To restrict its use to just your own account, select Go To Folder from the Finder's Go menu and enter ~/Library/Services (the tilde [~] represents your Home folder). Click Go to open the Services folder inside your user folder's Library folder. After you log out and then back in, the new services will be available.

You can find many third-party services packages at VersionTracker.com or MacUpdate.com. One of the best is Devon



Technologies' free Word Service 2.5 (www.devon-technologies.com/freeware.php). This package provides 34 functions for working with text. It can automate text formatting, such as altering line endings and sorting lines, as well as text conversion, such as changing capital letters to lowercase ones or changing straight quotation marks to smart ones.

Add-ons



Other add-on services provide shortcuts for all kinds of tasks. KavaSoft's \$5 Translation Service (www.kavasoft.com/TranslationService/index.html) lets you translate text to and from a number of languages, including major European and Asian languages.



SFree Terminal Services 1.0 (<http://homepage.mac.com/stas/terminalservices.html>) lets you select a bit of code and execute it as a command in Terminal. Nick Matsakis's free Browser Service 1.0 (<http://mit.edu/matsakis/software/BrowserService/>) lets you choose which browser will open a highlighted URL, regardless of the default browser. You can highlight a URL in one browser and use Browser Service to open that URL immediately in a different browser (helpful for Web sites that still aren't compatible with Safari).



Selznick Scientific Software's \$15 AtYourService 1.0 (www.selznick.com) adds a number of services related to translation, Terminal, and Web activities, and lets you *create* Services. For example, if you find yourself frequently performing the same actions on text, create a set of manipulations and make it a service.

Services are great, but they do have a few limitations. Sometimes you'll find that the submenu is either dimmed or empty. The most common reason for this is that you haven't yet selected content (text, graphics,

.Mac goodies

Many Mac users subscribe to Apple's .Mac service, but few take advantage of the three excellent and free utilities Apple provides to members. (You can download them all after logging into the www.mac.com Web site.)

1. Mac Slides Publisher allows you to create a slide show from a group of photos, and then upload it to your iDisk so other OS X users can subscribe to it. Make sure you're connected to the Internet, and then drag a group of JPEG photos onto the .Mac Slides Publisher icon. Publisher automatically creates the slide show and uploads it to your iDisk. To view your show, other Mac users simply select System Preferences: Screen Effects, click on .Mac, and then click on Configure. In the dialog box that appears, they enter your .Mac membership name.
2. Apple's iDisk Utility provides a number of tools for working with iDisks. Like the iDisk tab of OS X's Internet preferences, iDisk Utility lets you quickly check the capacity and current usage of your iDisk, as well as configure your iDisk's Public folder. However, iDisk Utility also provides a few unique options.

The Open Public Folder screen quickly opens any member's iDisk Public folder simply by typing the user's member name. (If the folder is password-protected, you'll be prompted for the password.) The Open iDisk screen lets you access any iDisk by entering the .Mac member name and password. These features are much quicker than using OS X's Connect To Server dialog box. In addition, if you've more than one iDisk, iDisk Utility lets you access any of them quickly. (The Finder's Go: iDisk command works only for the single account listed in the iDisk tab of the Internet preferences pane.)

3. Apple's iDisk Utility for Windows XP provides the same tools as the OS X version and is actually the only way to work with an iDisk from a computer running Windows. Apple encourages .Mac members to distribute the utility to their Windows-using friends.

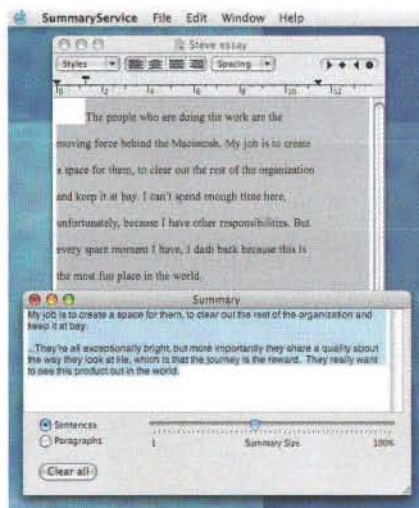
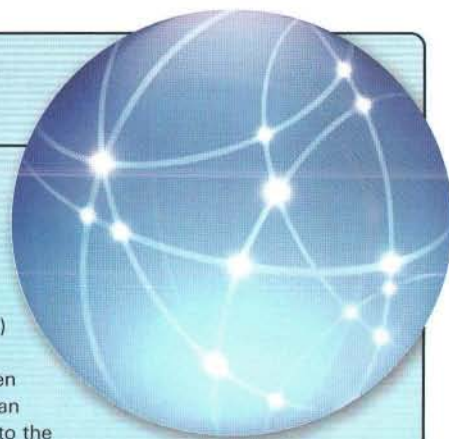
or a file or folder) that a service can use.

But that's not the only possibility. Some programs don't make use of services. Most apps written in Apple's Cocoa environment support them; however, developers not using Cocoa face some extra work. Currently, some popular applications such as Microsoft Word don't take advantage of services, although other non-Cocoa apps, such as BBEdit and OS X's Finder, do.

Another hitch: As of OS X 10.2, having too many (more than 70) services installed prevents the Services menu from functioning in non-Cocoa applications that support services, including the Finder. If this happens to you, remove a few of your custom-installed services and then log out and back in.

Services with a smile

Services can streamline the way you work. In addition, as more and more companies update their applications to take advantage of services, and as others release third-party service packages, the system will only get better. Start taking advantage of it now. **MW**



Dan Frakes is an editor at MacFixIt.com, and the author of *Mac OS X Power Tools* (Sybex, 2003). He is currently hiding out at www.danfrakes.com.



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Mic all night

Know the right microphone for the right occasion. By Jim Heid

Sound is an essential part of any movie, and nothing more clearly identifies the work of fledgling filmmakers than bad sound. It can turn indoor shots into a cacophony of unintelligible voices, unwanted noise, and room echoes. And it can make outdoor shots sound as though they'd been shot in the middle of a hurricane.

Don't make your viewers reach for the mute button. With the right equipment and a few tricks of the trade, you can dramatically improve your audio and give your movies a professional touch.

Blame the built-in

When it comes to bad audio, the most common culprit is the camcorder's built-in microphone. Consumer-grade camcorders tend to have low-quality mics. Often positioned far back on the camera or next to the drive mechanism, these mics have an uncanny knack for muffling the sounds you want to capture while amplifying the ones you don't — the whine of the camera's motors, for example.

To make matters worse, filmmakers often hold the built-in mic too far away from the audio's source. If you're shooting a school play from halfway across an auditorium, you may be getting great close-ups with your zoom lens — but the mic is still 50 feet from the stage, and it hears every room echo, excited parental whisper, and muffled cough.

So what can you do about your built-in mic? Easy — just don't use it. Instead, invest in a high-quality external mic and place it close to the action.

Choosing an external mic

Before you buy an external microphone, you should make sure your camcorder can accept one. Most midrange and all high-end camcorders have external mic jacks. (In most cases, it's a 1/8-inch stereo minijack.)

Microphones come in many sizes and designs. Which one you should choose depends largely on the type of films you create. For example, a lavalier mic, which clips to lapels or shirts, is great for recording training videos or anything else with a single voice. However, it isn't suitable for recording live music.

Unless you can afford to buy a mic for

every occasion, you'll want to choose one that can adapt to different scenarios. Here are a few options to consider:

A general-purpose mic The most versatile type you can buy is a single-point stereo mic. A stereo mic bundles two microphone capsules in one package. This arrangement helps it get accurate balance and separation between the left and right audio channels.

I tested Audio-Technica's £349 including VAT AT822 stereo mic (pictured; www.audio-technica.co.uk) with my Canon Elura. I was astounded at the difference in sound quality. The AT822's recorded audio sounded much richer, free from the tinny qualities common with camcorder mics. Its removable foam pop-shield not only reduced outdoor wind noise but also helped prevent plosives — boomy, percussive consonants such as 'B's and 'P's — when I recorded narration inside. For a more economical option, check out Sony's £99 including VAT ECMMSD1.CE7 (www.sonymstyle.co.uk).



continues page 108

Digital hub tip of the month

There's a certain classic beauty to black-&-white photos. But printing greyscale photos with a colour inkjet has traditionally proved troublesome, often resulting in unwanted tints or shallow tones. Hewlett-Packard is hoping to fix this problem with its new Photosmart 7960, an eight-colour inkjet that includes a separate cartridge for grey ink (\$300; www.hp.com). According to HP, the grey ink helps create smoother gradations, richer shadows, and more-accurate tones.

Kelly Lunsford



A field guide to microphone placement

SCENARIO	IDEAL MIC PLACEMENT
Solo piano	A foot from the centre of the piano's harp, pointed at the strings. (The piano's recital lid should be open.)
Wedding	As close to the couple as possible. Many wedding ceremony videographers attach a wireless lavalier mic to the groom or the officiator. (Bridal gowns tend to rustle too much.) A mic hidden in a nearby flower arrangement may also work.
School play	Position the mic high, pointing down toward the stage at about a 45 degree angle. If you can't set up your own microphone stand onstage, try to place the mic at most a few feet away and as close to centre-stage as possible.
Narrator	The mic should be 6 to 9 inches from the speaker's mouth and pointed downward. To avoid plosive problems, use a pop-shield and position the mic just off to the side, pointing at the mouth. Alternatively, use a lavalier mic attached to the speaker's shirt.
Choral group	Place the mic 1 to 3 feet above and 2 to 4 feet in front of the first row of singers.



A Shure thing

The Shure KSM27 is a step-up in price – costing £249 excluding VAT – but it's well worth the money if you're dealing with different audio scenarios and need versatility.

If you'll be moving around while filming and need to keep the mic with you, consider attaching the external mic to your camera. Many mics come with an adaptor that mounts on your camcorder's accessory shoe – a small bracket often located on the top of the zoom lens. If your camera lacks this feature, get Sony's £13 (including VAT) VCT-S30L Cold Shoe Arm, an accessory-shoe that screws into your camera's tripod mount.

Keep in mind, though, that you'll get the best sound when your mic is close to the source – especially if you're recording a lecturer or another stationary subject. In these cases, you'll want to place the mic on a stand; this gives you the freedom to stand farther back with your camera. With high-quality extension cables, you can position a stereo mic and camera roughly 25 feet apart. (The AT822 includes a 10-foot cable.) At greater distances, however, you risk losing some high frequencies while picking up hum and other electrical noise.

Long-distance mic If you need greater distance between your camera and the mic, consider purchasing a balanced mic, which is wired in a way that reduces electrical noise and allows cable runs as long as 100 feet or even longer. A balanced mic costs more than an unbalanced one, but it may be worth the extra money if you often film events such as theatrical performances and need long cable runs.

Balanced mics typically require an XLR jack, something only high-end camcorders tend to offer. However, you can connect a balanced mic to your camcorder's unbalanced miniplug jack

with the help of the DXA-6 adaptor, from BeachTek (£239 including VAT; www.beachtek.com; www.ask2.com). This compact metal box attaches to your camera's tripod mount. It requires no external power supply and has knobs for adjusting volume levels, as well as dual 48-volt phantom power supplies for professional mics.

Placement is everything

While the addition of an external microphone should help you record better audio, it's still only half of the equation. To do justice to any mic, you need to know how to position it properly.

How close should the mic be? That depends on what you're recording (see "A field guide to mic placement"). The closer the mic is to a sound's source, the less room noise and reverberation it picks up. But if it's too close, the stereo separation will become exaggerated – some sounds will come only from the left or the right speaker, while sounds in the centre will end up too loud.

If you're planning to record a live performance, show up for rehearsals so you can experiment with different mic distances. If your camera has a headphone jack, connect a good pair of headphones – the cups should surround your ears to block out external sounds. Record a test and play it back, listening for proper separation and minimal room noise.

For additional help, Shure, a microphone manufacturer, offers excellent mic-placement tutorials. You can download them from www.shure.com/booklets.

Recording narration

A movie's soundtrack doesn't always originate in the field. With narration or voice-overs, for example, sound recording happens during the postproduction process – a scenario that presents its own set of audio requirements.

When recording narration, you want to eliminate as much ambient noise as possible. Consider assembling a makeshift sound booth that will absorb room echoes while blocking out the noise of your computer and hard drive. For soundproofing that you can use over and over again, invest in some sound-absorbing acoustical foam (see www.studiospares.co.uk for a wide selection), and glue it onto two sheets of plywood or foam core. Position the two sheets in front of you in a V shape, with the mic at the narrow end. If you're on a tight budget, you can use blankets, pillows, carpet remnants, or even a coat closet to achieve the same effect. The idea is to surround yourself and the mic with sound-absorbing material.

Record your narration at the beginning of the editing process so you can then edit the accompanying footage to match the speaker's pacing. (To record narration in Apple's iMovie, use the Audio pane. In Final Cut Express, use the Voice Over tool.) Try to cut from one shot to another at natural breaks in the narration, such as at the end of sentence.

By using a good mic and the proper placement, you'll record sparkling sound that complements your video instead of detracting from it. Your movie will have less hiss, clearer voices, a richer texture, and an impressed audience.

MW

Capture ambient noise

If you're shooting scenes where the audio is mostly ambient sound – the waves at a beach or the din of a party, for example – take the time to shoot several minutes of uninterrupted video while keeping the camera stationary.

After importing the video into your editor, delete the video track and keep the

audio. (In iMovie, drag the video clip to the timeline and choose Extract Audio from the Advanced menu.)

You now have a seamless audio bed upon which you can put a series of muted video shots. This technique eliminates jarring changes in sound between each shot.

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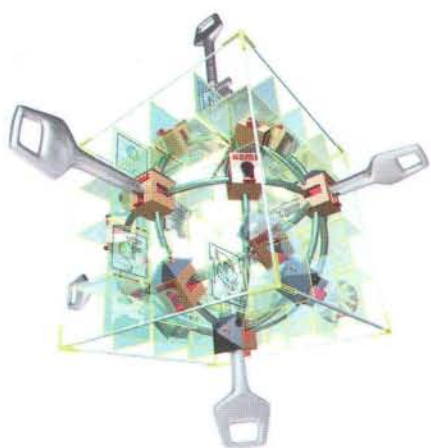
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Emergency OCR

Data recovery — when you don't even have data. By David Fanning



Picture the scene: you've written a paper or a business plan, it's been reviewed, marked or put before the board, and now everybody wants to see it. The problem is you deleted it, saved over it, or lost the original electronic document. Whatever the reason, you now only have your masterpiece in a paper format, and being a little dog-eared, you can't just photocopy it.

This might seem like a rare or even ridiculous scenario, but it happens — and even if it hasn't happened to you yet, it could. That's why you'll want to keep this month's Macworld cover CD in a safe place, because one day, for whatever reason, you'll be glad you had an optical character-recognition (OCR) tool.

Iris, the leading OCR specialist, has been

kind enough to let us present you with version 7.6 of Readiris Pro. It isn't the latest version — that's version 9, reviewed on page 62. However, version 7.6 is Mac OS 9 and OS X compatible and is 100 per cent free to Macworld readers on the cover disc of this issue. You can register it; you can even upgrade it. Whatever you do, make sure you have it loaded, just in case.

There are two ways of using Readiris Pro: either directly with a scanner, or by using it to read image files. Whichever input method you employ, Readiris can take a solid block of pixels and translate them into an editable text file.

Imagine retyping that 50-page proposal yourself, and then go and put our cover disc in a fireproof safe.

Recovering the unrecoverable

1 Once you've installed Readiris Pro, it needs an input to get the text into the Mac. If you have pre-scanned files, you can simply open them in the application.

Better still, you should be able to scan directly from Readiris — if you have a scanner. All scanners should be supported, so long as they have either a TWAIN driver, or a Photoshop plug-in. While this covers all the scanners I've ever found, they may not work without a little tweaking. Newer scanners should install the driver in the Application Support folder that hides in your Library folder in the top level of your hard drive.

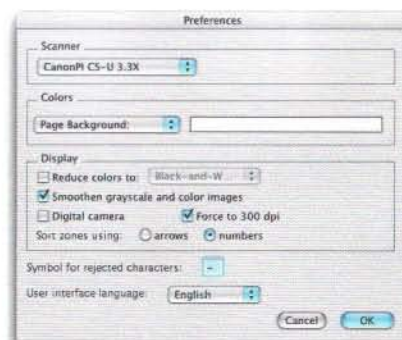
If your scanner is older, or for some reason the installer doesn't automatically install a driver in the Application Support folder, you may have to do it manually. Do this by looking in your Photoshop folder (if you have one) for the scanner plug-in. If it isn't there, it may be necessary to download an installer for your scanner drivers and reinstall.



Once you've found the driver, drag a copy of it into the Application Support folder.

2 After relaunching Readiris Pro 7.6, look under the Readiris menu for the preferences. They should show your scanner (and possibly others) in a drop-down menu. Select the right model and

you're ready to go. While you have the Preferences open, it's look at the other options. One checkbox that's definitely worth ticking is the Force to 300dpi option. Otherwise it has a tendency to scan things at 72dpi, which gives less-impressive results. Close the box, and you're ready.





Free with this issue of Macworld



Icon action

Iris is a Belgian company that it prides itself on its language support. For that reason the toolbar is labelled with icons only, but the functions aren't always entirely obvious. Simply let your cursor hover over the icons and the labels will appear.

3 There's a very tempting button to press that claims it will do Automatic OCR. This is a bit hopeful; if you've anything more complex than a regular page of text, this option will give unpredictable results. If you do have neatly printed text, this button could be the only button you need to press. Otherwise, there are more things to do. Go to the settings menu and select Page Deskewing and Orientation detection. These will make sure that even if the page is wonky in the scanner, it won't affect the OCR.

4 Clicking the scanner icon in the toolbar will launch the scanner software, which will vary according to your scanner. Set the resolution to at least 300dpi and after a pre-scan, scan the area that's to be converted to text. When happy with your selection, tell it to scan and move on to step five

5 What comes up next is the scanned document with each block of text and each image in yellow boxes. Each box is linked either by arrows or is optionally numbered to denote the

order in which the text will run. Readiris is pretty good at this, but if you spot any mistakes, it means going into zone sorting mode. It isn't as scary as it sounds – it simply means clicking on each zone in the order you want them to appear when translated.

If the zones are out of whack, you may need to select your own. This, again, is simply a matter of drawing boxes around areas and deciding whether they are graphics, text or tables.

6 This step is optional, but if you're scanning a foreign language, you can select the language from the languages button. This will make things easier because otherwise an English dictionary won't know what to do with a French document.



7 Another optional step, but if you intend to regularly scan an odd font, such as a script or novelty font, you may want to turn on learning. Readiris is fine with most normal fonts, but unusual ones can throw off its ability to recognize text. With learning turned on, it will prompt you for any letters it doesn't

recognize and remember them for next time. Keep this turned off unless there's a need for it.

8 Choose your output file. For most things, RTF will be the file of choice because it's editable. However, you can output to PDF, HTML and plain .txt. If attempting to save the same layout style, PDF or HTML will give the most accurate layout. You may need to set an application to launch with the created file.

9 Hit the OCR button and let it rip. If things don't turn out to your liking, you can always go back and rearrange the boxes or output format.



You will find version 7.6 of Readiris on this month's cover CD. It's a full version for you to keep, but there is also a 30-day demo version of the latest version 9. Version 9 is a more sophisticated and advanced version, so regular OCR users may want to upgrade. Not only is Iris giving you version 7.6, but it's even allowing you to upgrade for just £69 instead of the normal £82 price. To take advantage of this generous offer contact Widget on 0800 138 1639, or go to the Web site at www.widget.co.uk.



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X11 for Unix-heads

Deploy Unix applications with a friendly Mac-style interface. By Jim Akin

If the idea of running Unix applications on your Mac excites you but using Terminal drives you crazy, you may be wishing for some sort of middle ground between OS X's polished Aqua interface and its raw command line. Your wish has already been granted, in the form of X11, a longtime Unix system for running applications that have graphical interfaces you control with your mouse. With X11, you can run a host of powerful, useful, fun, and free applications.

Apple has integrated X11 into Mac OS X 10.3 (Panther), but even if you're not using Panther, you can get a jump-start by installing the public beta version of X11 from Apple and then using another program, FinkCommander, to find, install, and use cool X11 applications.

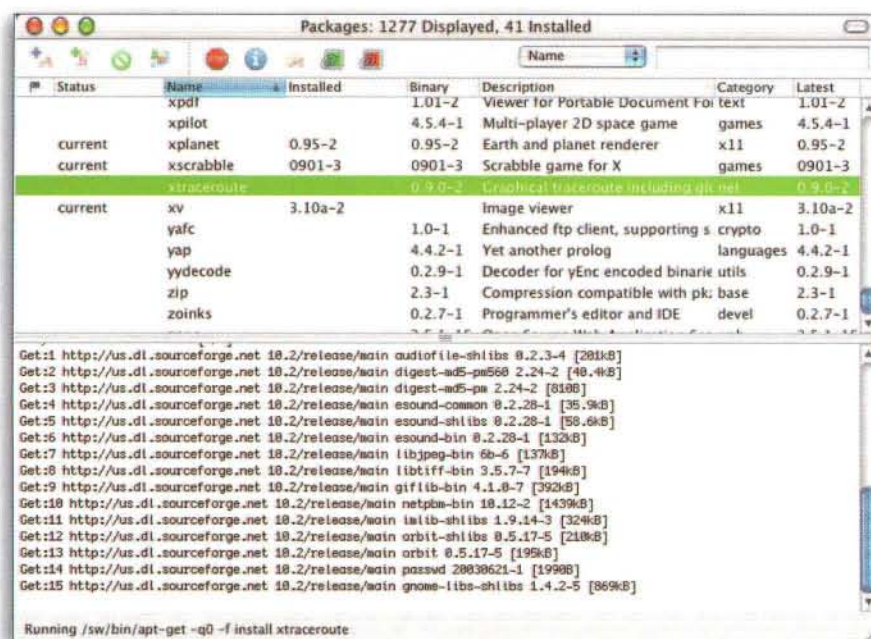
A bit of Xposition

Before installation begins, here's a little background: The terms X11, X Window System, and just plain X are interchangeable and refer to a collection of software modules and libraries that replicate the interface experience of Mac OS or Windows for the Unix crowd.

Variants of X11 have been developed to run on virtually every computer platform, and serious X11 fans have been running one of them, the open-source XFree86 (originally built for Intel-based PCs), on Macs since the earliest days of OS X. Last year Apple released its own version of XFree86 with a few enhancements, including default support for OS X Quartz technology, which produces familiar transparent windows, buttons, scroll bars, and so on.

Getting started

Before you install X11, remember that it's beta software, so the usual caveats apply: back up your system before installation, and test all X11 applications thoroughly to make sure they're stable before using them for critical work. Having said that, X11 beta 3 proved very stable in our testing. And because X11 runs on a peer level with the Aqua interface — both run on top of your Mac's Unix core — neither it nor the applications that run under it are likely to interfere with your Aqua or Classic applications or settings. Before you download X11, you'll need an

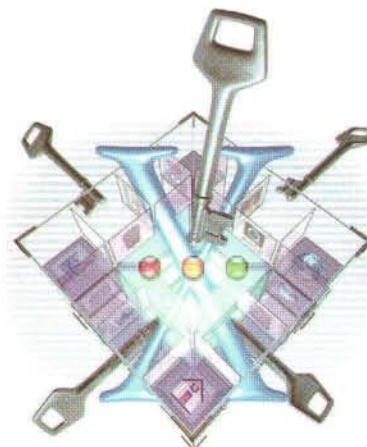


up-to-date version of the December 2002 release of Apple's Developer Tools for OS X. If you didn't get it with your copy of Jaguar, go to <https://connect.apple.com>, fill out a registration form, click first on Download Software and then on Developer Tools, and download the latest version of the package and any updaters. The Developer Tools installer, which requires an administrator-level password, will create a new /Developer folder. Resist the temptation to move the folder to /Applications or anywhere else.

Now it's finally time to grab X11. Head to www.apple.com/macosx/x11/download/, click on the Download X11 button, and then go back and click on the Download SDK link in the lower right corner of the page. Run the X11 installer and then the SDK installer. When it's all done, click the X11 icon in your Applications folder and fire up X11. You'll know you've succeeded when your cursor briefly turns into a cool X and a window, titled xterm, that looks suspiciously like Terminal opens on your screen.

Aye, commander

FinkCommander lets you download, compile, and install Unix apps with ease — all from a nice Aqua interface.



continues page 114

Welcome to X11

Before you get started with X11, it's a good idea to make it a bit more Mac-like.

Choose X11: Preferences and select Emulate Three Button Mouse. Once you do this, a single-button Mac mouse will act like a three-button Unix mouse: option-click will emulate a right-click (which appears in X11-application shortcut lists as Ctrl-Click or C-Click) and \mathbb{M} -click will emulate the middle button (M-Click or Meta-Click in shortcut lists).

In standard Linux applications, switching between open windows requires clicking on each new window twice. The first click focuses the window, or makes it active; the second interacts with the contents of the window, moving a cursor or activating a button. A hidden option in Apple's X11 application eliminates this excruciating click-to-focus behaviour. To turn the option on, quit X11, open Terminal, and type `defaults write com.apple.x11.wm_fm true`. When you restart X11, all windows will respond on the first click.

Think Fink

The powerful FinkCommander utility works with the Unix command `fink` to let you browse a continually updated directory of Unix applications and download, install, or update any program you choose.

As with X11, you'll need to install a couple of components to get FinkCommander up

and running. First, download and run the Fink binary (<http://fink.sourceforge.net/download>). As you're installing Fink, you'll be prompted to create a file named `.cshrc` in your Home directory – agree by typing `Y` and pressing return. If you don't do this (or if you aren't prompted to for some reason), you can do it yourself by entering the following Terminal command: `echo -n "source /sw/bin/init.csh" > ~/.cshrc`.

Once all that ugliness is out of the way, just download FinkCommander from <http://finkcommander.sourceforge.net> and install it in your Applications folder.

From FinkCommander, you can browse for cool programs to try. Note that not all the programs you see in FinkCommander are compatible with X11, and that X11-compatible programs aren't confined to FinkCommander's X11 category. Highlight a program's name and press \mathbb{M} -I for an expanded description; in the likely event you want even more information, follow the link to the developer's Web site – just remember to return to FinkCommander when you want to download and install the program, rather than using links on the developer's site.

When you're ready to install the software, click on the leftmost toolbar item (or choose Binary: Install) to begin the process.

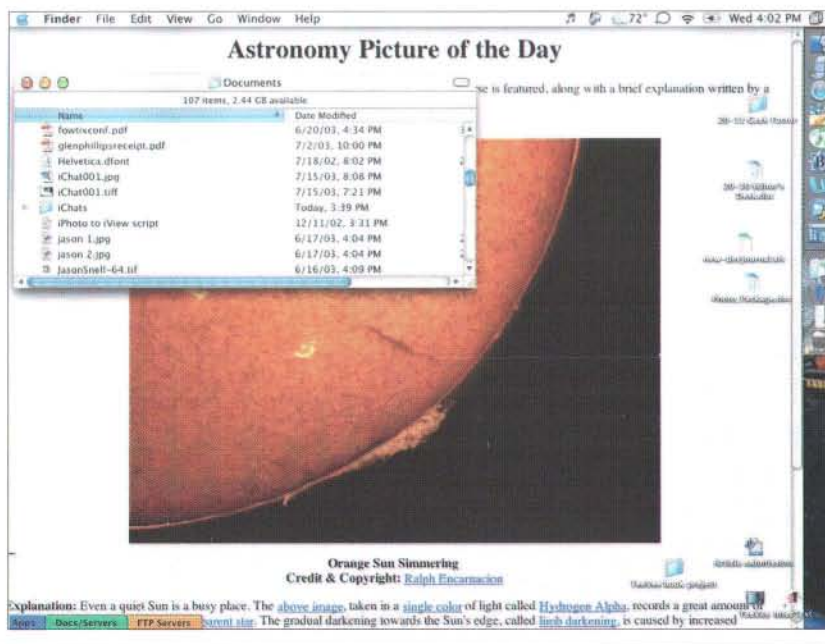
Once you've installed an application with FinkCommander, you can add it to X11's Applications menu by choosing Applications: Customize. Click Add Item, double-click the Name field, and enter your program's name. In the corresponding Command field, enter your program's path, which for programs installed via FinkCommander will always be `/sw/bin/filename`.

To determine the right file name to use, you may need to look in the bin folder inside the sw folder that Fink has created at the root level of your hard drive. The proper file will probably contain the name of the application, but installations sometimes create multiple similarly named files, so you may need to try a few of them before you get the right path.

Hack of the month: Desk job

I never really understood why Windows' ability to display Web pages on the desktop was worthy of envy by Mac users. But Steven Frank, the cofounder of Mac software maker Panic (www.panic.com), has managed to create a clever hack that does almost the same thing. WebDesktop (<http://stevenf.com/index.php?node=WebDesktop>) uses Apple's WebKit HTML rendering engine – the same one used by Safari – to display a Web page on your desktop. Click in the Dock to activate WebDesktop, and you can even load hyperlinked pages in the same transparent floating window. Does it work? You betcha. Do I really get why I need it? Well, no, but when it's a cool hack, necessity isn't always necessary.

Jason Snell



Time to explore

Once you've got FinkCommander up and running, you're best off browsing and exploring the Unix wonders it has to offer. You may get frustrated at times, but you'll also find a wealth of software – much of which has been in development for many years – that you can finally run on your Mac. MW

More info

Apple's X11 Help menu links to an all-but-useless Web page, so try these sites for more information:

Apple's X11-Users Mailing List Archives
www.lists.apple.com/mailman/listinfo/x11-users

Mac OS X Hints: Unix
www.macosxhints.com/index.php?topic=unix

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www.osxfaq.com/tips/unix-tricks/



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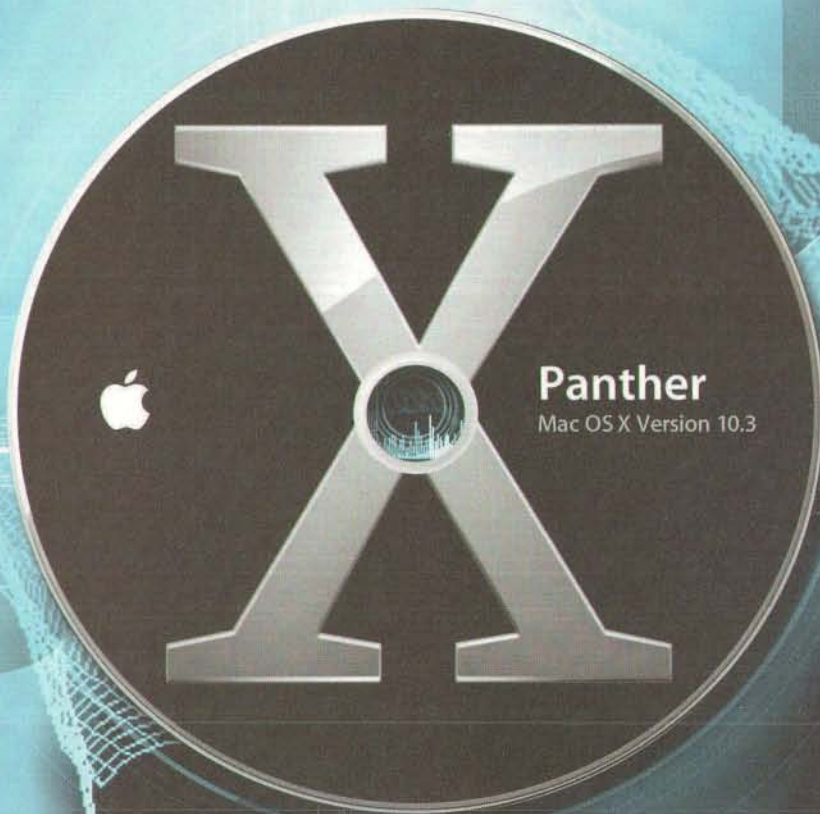
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Mac OS X Panther

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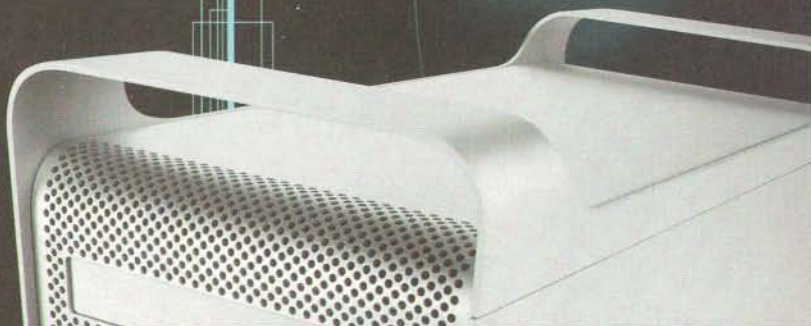
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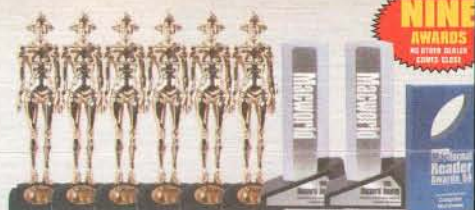


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- 56K internal modem
- AirPort Extreme ready

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A Crumpler Bag (see page 9)

PowerBook 1GHz G4 12.1" Combo



- 12.1-inch TFT XGA Display
- 1024x768 resolution
- 1GHz PowerPC G4
- 256MB DDR266 memory
- 40GB Ultra ATA/100 drive • DVD/CD-RW drive
- NVIDIA GeForce FX Go 5200 (32MB DDR)
- 10/100BASE-T Ethernet
- FireWire 400, USB 2.0
- AirPort Extreme Ready
- Bluetooth built-in
- Mini-DVI out

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A Crumpler Bag (see page 9)

PowerBook 1GHz G4 17" Super



- 17-inch TFT XGA Display
- 1440x900 resolution
- 1GHz PowerPC G4
- 1MB L3 cache
- 512MB DDR333 memory
- 60GB Ultra ATA/100 drive • DVD-R/CD-RW drive
- 64MB NVIDIA GeForce4 440 Go
- Gigabit Ethernet, FireWire 400 & 800
- AirPort Extreme Card built-in
- Bluetooth built-in
- S-Video/Composite Video out

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eMac 17" 1GHz G4 Combo



- 1GHz PowerPC G4
- 256K L2 cache (at 800MHz)
- 17-inch flat CRT (16" viewable)
- 128MB SDRAM
- 40GB Ultra ATA drive
- DVD/CD-RW Combo drive
- ATI RADEON 7500 - 32MB
- 10/100BASE-T Ethernet
- 56K internal modem
- Integrated stereo speakers

£548.00 EX VAT £643.90 INC VAT

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Install Service from £49 (£57.58)*

eMac 17" 1GHz G4 SuperDrive



- 1GHz PowerPC G4 processor
- 256K L2 cache (at 1GHz)
- 17-inch flat CRT (16" viewable)
- 256MB SDRAM
- 80GB Ultra ATA drive
- DVD-R/CD-RW SuperDrive
- ATI RADEON 7500 - 32MB
- 10/100BASE-T Ethernet
- 56K internal modem
- Integrated stereo speakers

£719.00 EX VAT £844.83 INC VAT

ADD CW Care £118 (£138.65)
Install Service from £49 (£57.58)*

iMac 15" 1GHz G4 Combo



- 1GHz PowerPC G4 Processor
- 15-inch (viewable) TFT active-matrix LCD
- 1024-by-768 pixels
- 256MB of SDRAM
- 80GB Ultra ATA (7200 rpm) • 32x Combo drive
- NVIDIA GeForce4 MX with 32MB of DDR SDRAM
- VGA video mirroring
- 10/100BASE-T Ethernet, 56K modem
- Two FireWire 400 ports, three USB 2.0 ports
- AirPort Extreme ready
- Internal Bluetooth optional

£843.00 EX VAT £990.00 INC VAT

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Install Service from £49 (£57.58)*

iSight

iSight is a state-of-the-art video camera that's the easiest way to video conference with your colleagues, friends and family over broadband. Featuring an autofocus autoexposure F/2.8 lens and a dual-element microphone in its stylish compact aluminum body. Ideal for iChat AV.

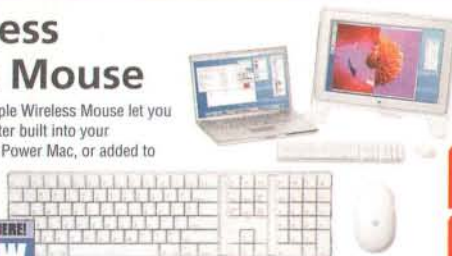


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Apple Wireless Keyboard & Mouse

The Apple Wireless Keyboard and Apple Wireless Mouse let you take advantage of the Bluetooth adapter built into your PowerBook, installed in your iMac or Power Mac, or added to your eMac and iBook. The benefit? A degree of freedom from physical restraint that you can't even imagine until you try it.

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Reliable wireless performance from a range of up to 30 feet

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MOUSE £49.99 EX VAT £59.98 INC VAT

FREE SOFTWARE
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- NetBarrier - Firewall, antivandal and privacy functions
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- ✓ Connection of up to two USB peripherals. See page 32 for more details.

‡ Software purchased from CW at time of CPU

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12.1-inch TFT XGA Display
1024x768 resolution
1GHz PowerPC G4
256MB DDR266 memory
40GB Ultra ATA/100 drive • Superdrive
NVIDIA GeForce FX Go 5200 (32MB DDR)
10/100BASE-T Ethernet
FireWire 400, USB 2.0
AirPort Extreme Ready
Bluetooth built-in
Mini-DVI out

£1229 .00 EX VAT **£1444.08** INC VAT

ADD CW Care £237 (£278.48)
A Crumpler Bag (see page 9)

PowerBook 1GHz G4 15.2" Combo



15.2-inch TFT XGA display
1280x854 resolution
1GHz PowerPC G4
512K L2 cache
256MB SDRAM memory
60GB Ultra ATA/100 drive • DVD/CD-RW drive
64MB ATI Mobility Radeon 9600
Gigabit Ethernet
FireWire 400 & 800, USB 2.0
AirPort Extreme ready • Bluetooth built-in
DVI & S-Video out

£1359 .00 EX VAT **£1596.83** INC VAT

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A Crumpler Bag (see page 9)

PowerBook 1.25GHz G4 15.2" Super



15.2-inch TFT XGA display
1280x854 resolution
1.25GHz PowerPC G4
512K L2 cache
512MB SDRAM memory
80GB Ultra ATA/100 drive • DVD-R/CD-RW drive
64MB ATI Mobility Radeon 9600
Gigabit Ethernet
FireWire 400 & 800, USB 2.0
AirPort Extreme built-in • Bluetooth built-in
DVI & S-Video out

£1699 .00 EX VAT **£1996.33** INC VAT

ADD CW Care £237 (£278.48)
A Crumpler Bag (see page 9)

PowerBook 1.33GHz G4 17" Super



17-inch TFT XGA Display
1440x900 resolution
1.33GHz PowerPC G4
512K L2 cache
512MB DDR333 memory
80GB Ultra ATA/100 drive • DVD-R/CD-RW drive
64MB ATI Mobility Radeon 9600
Gigabit Ethernet, FireWire 400 & 800, USB 2.0
AirPort Extreme Card built-in
Bluetooth built-in
DVI & S-Video out

£2039 .00 EX VAT **£2395.83** INC VAT

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A Crumpler Bag (see page 9)

Mac 17" 1.25GHz G4 SuperDrive



1.25GHz PowerPC G4 Processor
17-inch (viewable) TFT active-matrix LCD, 1440-by-900 pixels
256MB of SDRAM
80GB Ultra ATA (7200 rpm) • 4x SuperDrive
NVIDIA GeForce FX 5200 Ultra with 64MB
VGA video mirroring, S-video out
10/100BASE-T Ethernet, 56K modem
Two FireWire 400 ports, three USB 2.0 ports
AirPort Extreme ready
Internal Bluetooth optional

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PowerMac 1.6GHz G5 SuperDrive



1.6GHz PowerPC G5
800MHz frontside bus
512K L2 cache
256MB DDR333 128-bit SDRAM
Expandable to 4GB SDRAM
80GB Serial ATA
SuperDrive
Three PCI Slots
NVIDIA GeForce FX 5200 Ultra
64MB DDR video memory
56K internal modem

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Extra 120GB HD £129 (£151.58)

PowerMac 1.8GHz G5 SuperDrive



1.8GHz PowerPC G5
900MHz frontside bus
512K L2 cache
512MB DDR400 128-bit SDRAM
Expandable to 8GB SDRAM
160GB Serial ATA
SuperDrive
Three PCI-X Slots
NVIDIA GeForce FX 5200 Ultra
64MB DDR video memory
56K internal modem

£1569 .00 EX VAT **£1843.58** INC VAT

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Extra 120GB HD £129 (£151.58)

PowerMac Dual 2GHz G5 SuperDrive



Dual 2GHz PowerPC G5
1GHz frontside bus
512K L2 cache/processor
512MB DDR400 128-bit SDRAM
Expandable to 8GB SDRAM
160GB Serial ATA
SuperDrive
Three PCI-X Slots
ATI Radeon 9600 Pro
64MB DDR video memory
56K internal modem

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Extra 120GB HD £129 (£151.58)

Your last chance to
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Power Mac G4

The award winning G4 Super computers have loads of expansion capabilities and come with a huge pro feature set. CW has Limited Stocks of 1GHz, 1.25GHz and Dual 1.25GHz models, some of which come configured to boot up in Mac OS 9 and Mac OS X! * But you had better be quick as these terrific value Macs are expected to sell out real soon! - Buy TODAY and get your choice of FREE Integro software!

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Single 1.25GHz Combo

• 256MB RAM • 80GB Hard Drive
• ATI RADEON 9000 Pro 64MB • OS9/X

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Dual 1.25GHz Combo

• 256MB RAM • 80GB Hard Drive
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Xserve & Xerve RAID

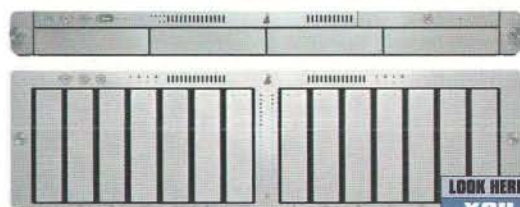
Apple Xserve offers and Xserve RAID are rack-optimized servers with phenomenal processing power, storage capacity, high-bandwidth I/O and remote management tools.

1U Xserve

With your choice of single or dual-processor 1.33GHz PowerPC G4s, up to 2GB of 333MHz DDR SDRAM, two 64-bit 66MHz PCI slots (plus a third combination PCI/AGP slot), dual Gigabit Ethernet, FireWire 800, USB and four independent ATA/133 drive bays that hold up to 720GB of data, Apple's best-in-class 1U server outshines not just its 1U competitors, but even many 2U systems.

Xserve RAID

The elegantly-engineered companion to Apple's highly-regarded Xserve line of server hardware, this cutting-edge, self-contained storage solution holds up to 14 hot-swappable Apple Drive Modules - a phenomenal 2.52 terabytes of data - in a rack-optimized storage enclosure. Xserve RAID features an architecture that combines affordable, high-capacity ATA/100 drive technology with an innovative 2Gb Fibre Channel interface for reliable - and incredibly fast - data access. Xserve RAID is hands-down the best value in external RAID storage.



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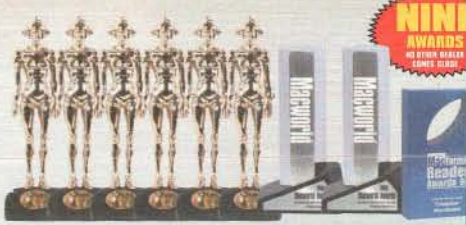
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"With Panther on my new G5, I really feel like I'm alive!"

"It's what I've been waiting for."

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So a new G5 has taken your fancy, or you just have to have one of the stunning 17-inch PowerBooks. Whichever new Mac you go for you'll be entering the wonderful world of Mac OS X computing.



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OS X 10.3

Panther
New, faster Finder, superb Exposé feature, a revolutionary new way to instantly view all open windows and choose any of them to be on top, and more fab stuff that will simply make your Mac better.

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G5

World's first 64-bit Personal Computer & the fastest PC on the planet!

The Power Mac G5 is the first PC with a 64-bit processor - which means it breaks the 4 gigabyte barrier and can use up to 8 gigabytes of main memory. The new G5 processor - available up to dual 2GHz and with AGP 8X and PCI-X - makes the Power Mac G5 a breakthrough in desktop processing power.

You owe it to yourself to upgrade - NOW

Are you still struggling with an older-style G4 or maybe even still a G3, then get this. The PowerPC G5 processor dramatically accelerates performance in the real world. When compared head-to-head against the 'powerful' PCs, in a large series of Photoshop tests the dual 2GHz Power Mac G5 is 2.2 times faster than the 3GHz Pentium 4-based system and almost twice as fast as the dual 3.06GHz Xeon-based system. If you're into graphics, video or web content you are simply NOT being productive and wasting money by sticking with your old G4.

Main Features

- ▲ 1.6GHz, 1.8GHz, or dual 2GHz
- ▲ 512K on-chip L2 cache
- ▲ 800MHz, 900MHz, or 1GHz 64-bit DDR frontside bus
- ▲ 1.6GHz - 4 slots - up to 4GB
- ▲ 1.8GHz / 2GHz - 8 slots - up to 8GB
- ▲ AGP 8X Pro graphics slot
- ▲ 2x Serial ATA controllers / 2x 3.5-inch hard drive expansion bays



2x FireWire 400 ports, 1x FireWire 800 port & 3x USB 2.0 ports



Features 1GHz frontside bus per processor, up to 16 GBps throughput on the dual 2GHz



High-speed AGP 8X Pro graphics bus with a choice of NVIDIA or ATI video



3x PCI-X slots, giving you the benefit of the newest advance in PCI technology

- ▲ SuperDrive on all models (DVD-R/CD-RW)
- ▲ 3x 64-bit, 33MHz PCI slots (1.6GHz)
- ▲ 1x 64-bit, 133MHz PCI-X slot & 2x 64-bit 100MHz PCI-X slots (1.8 & 2GHz)
- ▲ 10/100/1000BASE-T Ethernet, 56K V.92 modem
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- ▲ Stereo audio in and out minijacks, front headphone jack



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OR GET ALL 4 FOR ONLY £49 EX VAT
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G5 1.6GHz (Pro Plus) 1GB RAM, SuperDrive, 160GB Hard Drive, ATI Radeon Pro 64MB, 3 PCI, Bluetooth, Airport Extreme	£1695	£1954.33
G5 1.8GHz (Pro Plus) 2GB RAM, SuperDrive, 250GB Hard Drive, ATI Radeon Pro 64MB, 3 PCI-X, Bluetooth, Airport Extreme	£1995	£2336.33
G5 Dual 2.0GHz (Pro Plus) 4GB RAM, SuperDrive, 2x 250GB Hard Drives, ATI Radeon Pro 64MB, 3 PCI-X slots, Bluetooth, Airport Extreme	£3195	£3796.33

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- 80GB Hard Drive • 3 PCI slots
- NVIDIA GeForce FX 5200 Ultra 64MB

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G5 1.8GHz (Standard)

- 512MB RAM • SuperDrive
- 160GB Hard Drive • 3 PCI-X slots
- NVIDIA GeForce FX 5200 Ultra 64MB

£1569
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G5 Dual 2.0GHz (Standard)

- 512MB RAM • SuperDrive
- 160GB Hard Drive • 3 PCI-X slots
- ATI Radeon 9600 Pro 64MB

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NEW 15-INCH MODELS

PowerBook

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The new PowerBook family gives you power in a choice of three ultrafast portables. Whether you prefer the ultra-compact 12-inch model, the coveted 15-inch powerhouse, or the stunning 17-inch beauty, every new PowerBook G4 is loaded with advanced capabilities. Like turbocharged PowerPC G4 processors, DVD-burning SuperDrive, the fastest speeds in wireless networking, and cutting-edge graphics. Choose from three new ultrafast models: small, medium or epic. Starting at just 4.6 pounds, the three new PowerBook G4 models are light enough to carry around all day. And thanks to the PowerPC G4 processor with Velocity Engine, every PowerBook packs a tremendous punch for doing everything from crunching numbers to editing video and designing show-stopping presentations. You'll marvel at the way we've fitted the supersharp high-resolution TFT XGA active-matrix display into such a remarkably compact frame. To see it is to feel the strong stirrings of technolust.

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- Up to 1.33GHz PowerPC G4 processors
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- 40GB, 60GB or 80GB hard disk drives
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- 64MB ATI Mobility RADEON 9600 (15.1 and 17-inch models)
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- FireWire 400 and USB 2.0
- Airport Extreme built-in (selected models)



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Crumpler bag (see page 9)



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PowerBook 12.1" 1GHz

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- 40GB Hard Drive
- NVIDIA GeForce FX Go5200 32MB • 56k modem

£1099 .00 EX VAT | £1291.33 INC VAT

PowerBook 12.1" 1GHz

- 256MB RAM • SuperDrive
- 40GB Hard Drive
- NVIDIA GeForce FX Go5200 32MB • 56k modem

£1229 .00 EX VAT | £1444.08 INC VAT

PowerBook 15.2" 1GHz

- 256MB RAM • Combo
- 60GB Hard Drive
- ATI Mobility Radeon 9600 64MB • 56k modem

£1359 .00 EX VAT | £1596.83 INC VAT

PowerBook 15.2" 1.25GHz

- 512MB RAM • SuperDrive
- 80GB Hard Drive
- ATI Mobility Radeon 9600 64MB • 56k modem

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PowerBook 17" 1.33GHz

- 512MB RAM • SuperDrive
- 80GB Hard Drive
- ATI Mobility Radeon 9600 64MB • 56k modem

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Explore the digital lifestyle

Stay connected securely

Have the best user experience

Organize your life

Use many peripherals

Develop the next killer app

All this - and more!

- Finder - Find everything you need just a click away.
- Exposé - Quickly tile open windows and reveal files on your desktop.
- iChat AV - Talk face-to-face over the Internet with top-notch video.
- FileVault - Secure your documents with AES-128 encryption.
- Fast User Switching - Change users without logging out of your applications.
- Mail - Follow the thread of any discussion and block junk mail.
- iDisk - Access your iDisk when you're not connected.
- Preview - Scroll through and search PDFs faster than before.
- Font Book - Find, organize and manage all the fonts on your Mac.
- Based on UNIX - Industrial-strength stability, with X11 and FreeBSD 5.
- Works with Windows - Access your Exchange email and sync your Address Book.
- Xcode - Develop Mac OS X applications with powerful, elegant tools.



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"Here is something you just can't whack, it's stunning new bendy Apple iMac."

computer warehouse



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Choose VirusBarrier, NetBarrier, ContentBarrier or Personal Backup

OR GET ALL 4 FOR ONLY £49 EX VAT

Limited Offer at time of purchase - see page 2 for details



LOOK HERE!
NEW PRODUCT

iMac

All-out performance. All-in-one design.
Now up to 1.25GHz with USB 2.0.

Designed to be the digital centrepiece of your home and the fastest way to the Internet, the new iMac comes with even faster processors, faster memory, cinematic 3D graphics, high-speed USB 2.0 - and an architecture upgrade that gives the 15-inch iMac a whole new set of capabilities. Plus advanced communication features and wireless options.

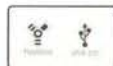
The iMac dazzles with its brilliant 15-inch and 17-inch widescreen flat-panel displays that adjust their height or angle with just a touch. But what's even more remarkable is the fact that its compact base packs powerful features like processor speeds up to 1.25GHz, extreme NVIDIA graphics, a DVD-burning SuperDrive and advanced wireless options.

Inside story

Inside the new 17-inch iMac, for instance, you get the 1.25GHz PowerPC G4 with Velocity Engine, 256MB of PC2700 (333MHz) Double Data Rate SDRAM main memory (expandable up to 1GB), NVIDIA GeForce FX 5200 Ultra graphics with 64MB of DDR SDRAM, and an Ultra-ATA/100 80GB hard disk that dishes out data at 7200 rpm.

Main Features

- ▲ Choose 1GHz or 1.25GHz PowerPC G4
- ▲ 17-inch (1440-by-900 pixels) or 15-inch (1024-by-768 pixels) TFT active-matrix LCD
- ▲ 256MB of SDRAM - up to 1GB
- ▲ 80GB or 80GB Ultra ATA (7200 rpm)
- ▲ Combo or 4x SuperDrive
- ▲ GeForce FX 5200 64MB (17" only)
- ▲ S-video & composite video
- ▲ 10/100BASE-T Ethernet, 56K modem
- ▲ FireWire 400 and USB 2.0
- ▲ Airport Extreme ready (17-inch only)
- ▲ Bluetooth optional



2x FireWire 400 ports & 2x USB 2.0 ports (plus 2x USB 1.1 ports on the keyboard)



More 3D graphics firepower with an advanced Live FX engine (1.25GHz model)

ADD to any iMac:
CW CARE PLAN £118 (£138.65)
CW Install Service (see page 31)

iMac 15" 1GHz G4

- 256MB RAM • Combo
- 80GB drive • 56K Modem
- NVIDIA GeForce4 MX 32MB • USB 2.0

£843 .00 EX VAT

£990.53 INC VAT

iMac 17" 1.25GHz G4

- 256MB RAM • Superdrive
- 80GB drive • 56K Modem
- NVIDIA GeForce FX 5200 Ultra 64MB • USB 2.0

£1218 .00 EX VAT

£1431.15 INC VAT

iBook

Designed to accompany you everywhere. Extra long battery life, compact shape, light weight.

Apple offers three iBook models, both boasting the superfast PowerPC G4 processor with Velocity Engine. With a choice of 12.1-inch or 14.1-inch displays, turbocharged 800MHz, 933MHz or 1GHz PowerPC G4 processors, 30GB, 40GB or 60GB Ultra ATA/100 hard disk drives, 256MB of RAM expandable to 640MB - plus optional AirPort Extreme wireless networking and optional built-in Bluetooth wireless peripheral connectivity as well as FireWire, USB 2.0 and Ethernet ports - the iBook gives you astonishing performance in a stunning design.

Enjoy the digital lifestyle

You'll never run out of cool things you can do with your iBook. Pop open the lid and you'll find everything you need to surf the Internet, create cool websites, share photos, build a music library, edit video movies, send and receive emails, solve math problems, write reports and more. Plus you can burn your own music CDs with the combo drive.

Main Features

- ▲ Choose from three models - each feature PowerPC G3 power
- ▲ Processor speeds up to 1GHz G4!
- ▲ 133MHz system bus
- ▲ 256K level 2 cache
- ▲ Superb 12.1-inch or amazing new 14.1-inch TFT XGA displays
- ▲ 256MB SDRAM memory (expandable to 640MB maximum)
- ▲ Up to 60GB Ultra ATA drive
- ▲ Slot loading DVD/CD-RW combo drive
- ▲ ATI Mobility Radeon 9200 with 32MB of DDR SDRAM
- ▲ 10/100BASE-T Ethernet
- ▲ 56K internal V.90 modem
- ▲ VGA, S-video and composite video output
- ▲ Two USB 2.0 ports, FireWire port
- ▲ Lithium-ion battery - lasts up to 5 hrs
- ▲ AirPort Extreme ready, optional Bluetooth

ADD to any iBook:
CW CARE PLAN £169 (£198.58)
CW Install Service (see page 31)

iBook 12.1" 800MHz G4

- 256MB RAM • Combo
- 30GB Hard Drive • USB 2.0
- ATI Mobility Radeon 9200 32MB • Firewire

£719 .00 EX VAT

£844. INC VAT

iBook 14" 933MHz G4

- 256MB RAM • Combo
- 40GB Hard Drive • USB 2.0
- ATI Mobility Radeon 9200 32MB • Firewire

£849 .00 EX VAT

£997. INC VAT

iBook 14" 1GHz G4

- 256MB RAM • Combo
- 60GB Hard Drive • USB 2.0
- ATI Mobility Radeon 9200 32MB • Firewire

£1019 .00 EX VAT

£1197. INC VAT

Note: Prices quoted are for cheque, cash, debit cards or buy now pay in 6 months orders only. Written quotations available upon request. Consumers Statutory rights are not affected. Prices exclude carriage at TNT published rates. E&OE. All products and offers subject to Computer Warehouse Limited Terms of Trade available upon request. All trademarks respected. Photographs shown for illustration purposes only. Bundled software supplied on CD or pre-installed. E&OE.

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6 TIME MAC USER READER AWARD WINNER

Computer Warehouse Ltd, No.1 Amalgamated Drive,
West Cross Centre, Great West Road. Brentford TW8 9EZ
The latest Apple gear on display ready for you to evaluate
In store 'Manager's Specials'



Brand new showroom open!

We are located just off the A4, around
2 mins west of the Chiswick
Roundabout, and are just a
short 5 mins walk from
Syon Lane BR station.
The showroom is open
Monday to Friday 9am -
5.30pm & Saturdays from
9am to 5pm.



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LONDON
APPLE CENTRE**



**FREE
SOFTWARE**

CHOOSE ANY ONE OF THESE TITLES



OR GET ALL 4 FOR ONLY £49 EX VAT
Limited Offer at time of purchase - see page 2 for details

eMac

The most affordable G4 system ever, now
available with SuperDrive. - Better value!

At the power, performance and value you're looking for in an all-in-one desktop
computer that's as easy to use as it is to afford. Starting at just £548 ex vat, the
eMac now features a more powerful processor, a faster CD- and DVD-burning
SuperDrive, and Apple's integrated iLife applications for making the most of your
music, photos and movies.

All-in-one design - All-in-one powerhouse

The eMac all-in-one design has some tremendous advantages. For instance,
there aren't a lot of extra cords, so setup is simple - and desktop clutter is kept to
a minimum. And in addition to the stunning 17-inch display, the AirPort Extreme-
ready eMac comes with a built-in 10/100BASE-T Ethernet port for high-speed
Internet access, FireWire, USB and amazing stereo speakers - all in one compact
computer that's smaller than most stand-alone PC displays. The eMac design is
about the same size as the 15-inch-CRT-based iMac - (8mm shorter, actually),
which makes it ideal for limited desk space in the classroom or at
home. And its body is made of polycarbonate plastic, the same
material used to manufacture bulletproof glass.

This has got to be the best value G4 desktop ever!

Main Features

- 1GHz super-fast PowerPC G4
- 17-inch (16-inch viewable) flat CRT
- 40GB or 80GB hard drives
- 128MB or 256MB SDRAM (up to 1GB)
- 2x Firewire ports, 3 x USB ports
- ATI Radeon 7500 32MB DDR video memory
- CD-ROM, Combo or SuperDrive model let you
view DVDs and store, archive, and share digital
media projects on CDs
- 56k bps internal modem
- Optional AirPort Extreme



With a SuperDrive
eMac & you can burn CDs
and make DVDs!



Get the fastest eMac ever
featuring Pentium crushing
1GHz PowerPC G4 processor

ADD to any iMac:

CW CARE PLAN £118 (£138.65)

CW Install Service (see page 31)

**eMac 17"
1GHz G4**

- 128MB RAM • Combo
- 40GB Hard Drive • USB
- ATI RADEON 7500 32MB • 56k Modem

£548 .00 EX VAT



£643.90 INC VAT

**eMac 17"
1GHz G4**

- 256MB RAM • Superdrive
- 80GB Hard Drive • USB
- ATI RADEON 7500 32MB • 56k Modem

£719 .00 EX VAT



£844.83 INC VAT

**LOOK HERE!
NEW
PRODUCT**

iPod

New slimmer design, plus the 40GB model offers
up to 10,000 songs in your pocket.

The new super-slim iPod once again redefines what a digital music player should
be. It's lighter than 2 CDs, can hold up to 10,000 songs, and downloads music at
blazing speeds. Now you can take your entire music collection with you wherever
you go. Smaller than ever (just 0.62 inches thick), the new iPod fits comfortably
in the palm of your hand and slips easily into your pocket - and your life. At 5.6
ounces, it weighs less than 2 compact discs, and even many cell phones. And yet
the iPod gives you a huge 10GB, 20GB or 40GB hard drive. Do the math: that's
space enough to store three weeks of music - played continuously, 24/7 - or one
new song a day for the next 20 years.

The iPod Dock

The 20GB and 40GB iPod
models come with a dock
that makes charging and
syncing easier than ever -
no more reaching around,
looking for the right port.

Main Features

- ▲ Choose from 10, 20 and 40GB models with
the capacity to hold up to 10,000 songs
- ▲ New Dock (on selected models) for easy
charging, syncing or connecting to a home
stereo or powered speaker set-up
- ▲ Tough-sensitive scroll wheel and controls for
easy access to music
- ▲ Backlit LCD and illuminated buttons
- ▲ Lighter, thinner - weighs less than 2 CD's!
- ▲ Store and view contacts, iCal calendars and
to-do lists!
- ▲ Complete with Apple in-ear phones



20GB and 40GB models
come with a dock for easy
charging and syncing.



Supports MP3 (up to 320
kbps), MP3 Variable Bit Rate
(VBR), WAV and AAC.



iPod now includes Solitaire,
Brick and Parachute, three
great games.



The iPod's earbud-style
headphones offer 20Hz to
20,000Hz quality.

Cool Belkin
Accessories
for your iPod
on page 28

BELKIN



Effortless synchronization

You can synchronize your music and data effortlessly,
without having to tweak settings each time you transfer
files between your iPod and your computer. In fact, the
iPod's auto-sync feature more than lives up to Apple's
reputation for plug and play ease of use.

10GB Holds up to 2500 songs

£199 .00 EX VAT

£233.83 INC VAT

20GB With dock. Carry case & belt clip
Holds up to 5000 songs

£249 .00 EX VAT

£292.58 INC VAT

40GB With dock. Carry case & belt clip
Holds up to 10000 songs

£339 .00 EX VAT

£393.33 INC VAT

OPEN 6 DAYS A WEEK
Mon to Fri 9am - 5.30pm Sat 9am - 5pm

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For Macs. London areas. Call for details.

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See page 31 for details & conditions.

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Fax us a list of required items.

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BY FAX**

020 8400 9444



Apple Centre

This is...

computer warehouse

"My data is safe with a Lacie - I'm just so happy, can't you see."

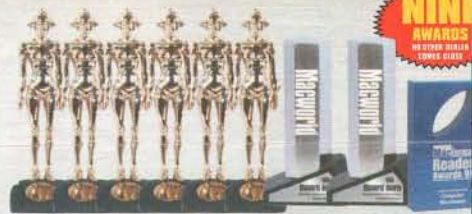
"Looks like a winner!"

Only CW has been awarded no less than NINE Macintosh Magazine Reader Awards in 6 Years

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NINE AWARDS

LACIE

Photon 20" LCD/TFT

Brilliant color for the graphics professional

This cross-platform, flat-panel LCD provides an impressive 1600 x 1200 native resolution, state-of-the-art color accuracy, and increased brightness and contrast required for demanding design applications. With rotating capability for Mac OS 9 and Windows, the photon20vision can be used in either landscape or portrait mode, enabling graphic designers to see an A4 document at 1:1 scale in either page layout.

Main Features

- ▲ 1600 x 1200 native resolution
- ▲ Large diagonal viewing area
- ▲ On-screen controls for fast adjustment
- ▲ Base and wall-mount options



LOOK HERE!
NEW PRODUCT

Photon 20" LCD / TFT

£739
£888.33 INC VAT

Stylish new d2 design!

UP TO 52x CD WRITE

DVD-R/RW NOW IN

UP TO 500GB HARD DRIVE



52x 32x 52x CD-RW

This high specification CD-ReWritable features 52x write, 32x re-write and 52x read speeds. BURN-proof to prevent under-runs, hot-swappable, burns full CD's in less than 2 minutes & available in a sleek enclosure.

- ▲ Hot 'plug & play'
- ▲ Buffer Under-Run protection
- ▲ LaCie Utilities & 1st CD-RW media included

CW Awesome Price
£79
£92.83 INC VAT

DVD+/-RW & CD-RW

Lacie FireWire & USB2 DVD+/-RW & CD-RW combo drives are ideal for storage, archiving & personal backup. Store up to 2hrs of MPEG-2 media on 4.7GB. Includes DVD authoring software. 1st 4.7 GB Media included. Reads & writes DVDs & CDs. Mac FireWire or PC U&I versions

CW Awesome Price
£179
£210.33 INC VAT

FIREWIRE & USB2 BACKUP

Up to 130GB (compressed) per tape, perfect for personal or departmental backup. Hot-pluggable, can be easily shared between workstations & added or removed with immediate device recognition.

Inc. Retrospect desktop 5 client software
CALL FOR FULL RANGE OF AIT & DLT BACKUP INC. AUTOLOADERS & LIBRARIES

AIT2 50/130GB Only
£899
£1058.33 INC VAT

HARD DRIVES - UP TO 500GB

Lacie FireWire hard drives offer sustained transfer rates up to 35 MB/Sec, easy plug and play operation and in cool new enclosures.

- ▲ New fast FireWire have twice the transfer rates of previous generation and competitor drives
- ▲ 7200rpm for video use

160GB Hard Drive Only
£139
£183.33 INC VAT

LACIE DATA BANK

Precious design for precious data

The most compact hard disk ever, the Lacie Data Bank fits in the palm of the hand and can hold up to 20GB of data. Weighing less than 140g, the new Lacie jewel is barely larger than a credit card and thinner than a mobile phone.

- ▲ 2 versions available 10GB and 20GB
- ▲ Weighs less than 140g and dimensions only 11mm x 63mm x 13mm
- ▲ Bus powered via FireWire and USB 1.0/2.0 for true mobile use
- ▲ Ingot shaped magnesium design by F.A. Porsche



20GB DataBank
£164
£192.70 INC VAT

LOOK HERE!
NEW PRODUCT

10GB Hard Drive £134.00 £157.45
20GB Hard Drive £164.00 £192.70
40GB Hard Drive £229.00 £269.00

POCKET DRIVES

Ultra-portable FireWire & USB 2 hard drives & DVD-R/RW drives

For Mac users on the move and business road warriors everywhere, these super handy, super speedy pocket solutions have taken the world by storm! Includes the new "U&I" (USB & FireWire) technology that allows you to transfer data without worrying what interface you are using. New fast FireWire interface in the hard drive solution offers up to 20MB/s sustained throughput (double that of previous generation and competitor drives). Can be powered via FireWire port for true mobile computing.



80GB Pocket Drive
£259
£304.33 INC VAT



DVD-R/RW Pocket Drive
£214
£251.45 INC VAT

- ▲ 80GB Hard Drive
- ▲ DVD-R/RW FireWire - Includes CaptoDVD Mac DVD authoring software, bus powered

The ultimate value in storage... NEW LOW PRICES

REMOVABLE STORAGE

FireWire & USB 2 52x32x52 CD-RW		
Includes Mac and PC recording utilities and 1st media	£84	£98.70
FireWire 52x32x52 CD-RW		
Includes LaCie recording utilities and 1st CD-RW media	£79	£92.83
USB 2 52x32x52 CD-RW		
Includes Mac and PC recording utilities and 1st media	£69	£81.08
Dupli DVD 121, FireWire & USB2		
Includes Mac and PC recording utilities and 1st media	£649	£762.58
FireWire DVD+/-RW & CDRW		
Includes Mac authoring software	£179	£210.33
FireWire DVD-R/DVD-RAM/RW Multidrive		
4.7GB DVD-R / 9.4GB DVD-RAM Inc. 1st 4.7GB media	£194	£227.95
FireWire & USB 2 DVD+/-RW Superdrive		
4.7GB DVD-R/RW CD-RW. Inc. 1st 4.7GB Media	£164	£192.70
Dupli 121 CD & 52x24x52 CD-RW		
CD-ROM & 52x24x52 CD-RW mechanisms in the same casing	£219	£257.33
Dupli 125 CD & CD-RW		
CD-ROM & five 40x24x52 CD-RW's mechanisms in the same casing	£1095	£1286.63
PocketDrive DVD-R/RW FireWire		
Includes CaptoDVD Mac DVD authoring software, bus powered	£214	£251.45
PocketDrive 24x10x24 CD-RW FireWire		
Includes LaCie recording utilities and 1st CD-RW media	£109	£128.08
My Floppy Drive USB		
3.5" Floppy drive	£24	£28.20

EXTERNAL HARD DRIVES

LaCie Ethernet Disk 80GB NAS		
Share a hard drive across any network with easy installation	£399	£468.83
LaCie Ethernet Disk 160GB NAS		
Share across a network, easy installation and expansion	£499	£586.33
FireWire 80GB - 7200rpm		
New Fast-FireWire up to 35MB/s sustained transfer rate	£104	£122.20
FireWire 120GB - 7200rpm		
New Fast-FireWire up to 35MB/s sustained transfer rate	£114	£133.65
FireWire 200GB - 7200rpm		
New Fast-FireWire up to 35MB/s sustained transfer rate	£169	£198.58
FireWire 250GB - 7200rpm		
New Fast-FireWire up to 35MB/s sustained transfer rate	£209	£245.58
FireWire 800 & USB2 400GB - 7200rpm		
New Fast-FireWire offering exceptional performance	£364	£427.70
FireWire 800 & USB2 500GB - 7200rpm		
New Fast-FireWire offering exceptional performance	£464	£545.20

BACK-UP DEVICES

SCSI AIT-3 100/260GB		
Inc. Retrospect Single Server Software	£2339	£2740.00
FireWire & USB 2 AIT1 35/90GB		
Includes Retrospect Desktop 5 Users Software	£599	£700.00
FireWire & USB 2 AIT2 50/130GB		
Includes Retrospect Single Server Software	£899	£1050.00
SCSI DLT1 40/80 GB		
Inc. Retrospect Workgroup 5 clients 1 server software	£1199	£1400.00
SCSI 160/320GB Super DLT		
For all your back-up requirements	£2995	£3510.00

POCKET HARD DRIVES

FireWire & USB 2 20GB		
Dual USB & FireWire interface. Compact dimensions	£114	£133.65
FireWire & USB 2 40GB		
Dual USB & FireWire interface. Compact dimensions	£144	£163.65
FireWire & USB 2 60GB		
Dual USB & FireWire interface. Compact dimensions	£199	£233.65
FireWire & USB 2 80GB		
Dual USB & FireWire interface. Compact dimensions	£259	£303.65

OTHER

Network CD Box		
80GB NAS CD server with CD ROM, Ethernet 10/100Mbps	£549	£640.00
Photon 18 TFT Monitor		
18" TFT 18" monitor	£419	£490.00
Photon 20 TFT Monitor		
20" LCD/TFT 20" monitor	£739	£860.00
Electron 19 Blue Monitor		
NF Diamondtron display, 1600 x 1200@75Hz max res.	£289	£330.00
Electron 22 Blue Monitor		
NF Diamondtron display, 2048 x 1536@80Hz max res.	£619	£720.00
USB 6in1 Multi-Media Memory Card Read/Writer		
Reads Compact Flash/Smart Media/SD/Microdrive/Multimedia/Memory Stick	£14	£16.00
Lacie BlueScan 4880/3.5D Scanner		
Includes Silverfast Ai Pro 6 software	£569	£660.00

NEW LOWER PRICES

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Take the hassle out of buying a computer. Remove the problems with ADSL 'self-install'. *If you live in London or the Western Home Counties, CW will deliver, configure and install your new Mac system for an all-inclusive price. Or visit and properly install and set-up your Broadband connection!

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**EXPERIENCED
TRAINED
PERSONNEL**

- PACKAGES INCLUDE**
- ✓ Your Mac equipment delivered by our Engineer at a pre-arranged time (no waiting for a courier)
 - ✓ Connection to the Internet via your ISP (not ADSL)
 - ✓ Installation of up to 5 software applications ‡
 - ✓ Connection of up to two USB peripherals. See page 32 for more details.

**MORE MEMORY AVAILABLE
CALL NOW!**



No.1 Mac Memory Choice



Why choose Kingston Memory?
Kingston Technology memory is trusted by computer users over the world. It is guaranteed 100% compatible. Comes with free technical support and a lifetime warranty. And every chip on every module is 100% tested. Kingston designs and builds more computer memory than any other manufacturer in the world. CW has a huge range of Kingston memory available for your iMac, PowerBook, PowerMac 4 and the awesome Apple PowerMac 5.

**G5
1GB
MEMORY
AVAILABLE**

G5 1.8GHZ / 2.0GHZ FOR 1.8GHZ SEE PC333

256MB Module	£59	£69.33
512MB Module	£99	£116.33
1GB Module	£449	£527.33

G4 1GHZ / 1.25GHZ PC333 / 2700MHZ

128MB Module	£25	£29.33
256MB Module	£45	£52.33
512MB Module	£89	£104.33

G4 DUAL 867MHZ PC256 / 2100MHZ

256MB Module	£45	£52.33
512MB Module	£75	£88.33

G4 PC133 (CALL FOR MODEL DETAILS)

256MB Module	£65	£76.33
512MB Module	£85	£99.33

XSERVE PC256 / 2100MHZ

256MB Module	£45	£52.33
512MB Module	£75	£88.33

POWERBOOK 17" PC333 / 2700MHZ

256MB Module	£69	£81.33
512MB Module	£129	£151.33
1GB Module	£599	£703.33

P.BOOK 12" PC256 / 2100MHZ

256MB Module	£69	£81.33
512MB Module	£129	£151.33

P.BOOK G4 550MHZ OR FASTER PC133

128MB Module	£35	£41.33
256MB Module	£65	£76.33
512MB Module	£99	£116.33

P.BOOK G4 400 / 500MHZ PC100

128MB Module	£35	£41.33
256MB Module	£65	£76.33
512MB Module	£99	£116.33

P.BOOK G3 PISMO PC100

128MB Module	£35	£41.33
256MB Module	£65	£76.33

**G5 MODULE FROM
£59
EX VAT** £69.33 INC VAT

COMPACT FLASH

64MB Compact Flash Card	£19	£22.33
128MB Compact Flash Card	£29	£34.33
256MB Compact Flash Card	£45	£52.33
512MB Compact Flash Card	£85	£99.33

SMARTMEDIA

32MB Smartmedia Card	£15	£17.33
64MB Smartmedia Card	£19	£22.33
128MB Smartmedia Card	£29	£34.33

USB FLASH MEMORY

64MB DataTraveler 3.3V	£29	£34.33
128MB DataTraveler 3.3V	£39	£45.33
256MB DataTraveler 3.3V	£55	£64.33



Super cool bags for your iBook, your Powerbook, your life.

**MORE
AVAILABLE
CALL**



CRIPPY DUCK

Laptop bag (up to 15" laptops)
Chicken-Text Fabric, ripstop lining, protective padding, large velcro closure, large pleated w/velcro seal, one large mesh zipped inside lid flap, fits up to 15" screen, padded laptop sleeve, carry handle.
▲ Internal measurements: 29 x 33 x 10cm
▲ External measurements: 30 x 36 x 11cm
▲ 9.6 litre volume

**CW Awesome Price
£59
£69.33 INC VAT**



MCBAIN'S

'Lovechild' - fits everything
Don't make your laptop computer cohabitate with all those vile and disgusting things in the bottom of your bag. Buy it its own place to live and it will thank you again and again. 1000 Denier Cordura Nylon
▲ 3 sizes: M,L,XL
▲ XLarge holds Laptop with up to 15" screen
▲ Linear inches: 22.25"
▲ Weight: 14 oz.

**CW Awesome Price from
£30
£35.25 INC VAT**



ROLL-O-NOTES

Laptop bag (up to 14.1" laptops)
When not carrying your notebook, can be found sitting in booths in the corners of expensive restaurants, wearing an assortment of large gold rings on its fat fingers, planning the downfall of civilization. The ROLL-O-NOTES smokes a Cuban, drums its fingers on the table and says "You only have to give me respect ... and none of this has to happen."

**CW Awesome Price
£66
£77.55 INC VAT**



BASE TOUCHER

The notebook backpack
Chicken-Text Fabric, ripstop lining, protective padding, #10 zip - 2 sliders recessed in back panel, Front & side zip pocket, 2 velcro seal, 1 sleeve, 1 mesh zipped, anatomical padded straps, fits up to light 17", big 15", additional attachment loop, padded laptop sleeve w/ extra pockets and pen sleeves, padded base, adjustable chest strap

**CW Awesome Price
£80
£94.00 INC VAT**

OPEN 6 DAYS A WEEK
Mon to Fri 9am - 5.30pm Sat 9am - 5pm

CW INSTALL SERVICE
For Macs, London areas. Call for details.

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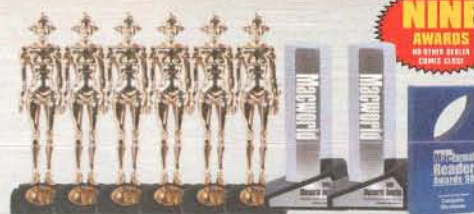
This is...

"My Formac display is just the tops."

"So bright, so clear and easy on the eyes."

computer warehouse

Apple Centre



Only CW has been awarded no less than **NINE** Macintosh Magazine Reader Awards in 6 Years

EDUCATION DEPT

CORPORATE SALES

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Many more Formac information & products available online at www.cwonline.co.uk

Formac

Gallery LCD

Ultimate panel technology

The Formac Gallery range of flat panel displays offer superior image quality in a cool, slim, space-saving design with a choice of either 17.4" or 20.1" or new 19" sizes. Utilising the latest in TFT flat screen LCD technology, a Gallery is the ideal display for graphics artists, video editors and business professionals who demand the very best. It offers a flicker-free, exceptionally bright, superior image with bags of contrast, thanks to state-of-the-art digital technology. The ultrafast 25ms pixel response time really comes into its own when working in video editing applications such as Premier 6.5, Final Cut Pro or iMovie.



CW Awesome Price

£379 .00 EX VAT
£445.33 INC VAT

GALLERY 1740

17.4" TFT Flat Panel

- ▲ White (OX) or Platinum finish
 - ▲ 25mm pixel pitch
 - ▲ Built-in USB hub
 - ▲ 1280 x 1024 pixel resolution
- | | |
|---------|--------------------|
| 1740 OX | ADC £365 (£428.88) |
| 1740 OX | VGA £385 (£452.38) |
| 1740 | ADC £385 (£452.38) |
| 1740 | DVI £395 (£464.13) |

Gallery 1740 From
£365 .00 EX VAT
£430.81 INC VAT

GALLERY 1900

19" TFT Flat Panel

- ▲ Platinum finish
 - ▲ Ultra-fast 25ms pixel response
 - ▲ Built-in USB hub
 - ▲ 170° horiz/vert viewing
 - ▲ 1280 x 1024 pixel resolution
- | | |
|---------|--------------------|
| 1900 OX | ADC £525 (£616.88) |
| 1900 | ADC £599 (£703.83) |
| 1900 | DVI £599 (£703.83) |

Gallery 1900 From
£525 .00 EX VAT
£616.88 INC VAT

GALLERY 2010

20.1" TFT Flat Panel

- ▲ White (OX) or Platinum finish
 - ▲ Ultra-fast 25ms pixel response
 - ▲ 25mm pixel pitch
 - ▲ Built-in USB hub
 - ▲ 1600 x 1200 pixel resolution
- | | |
|---------|--------------------|
| 2010 OX | ADC £779 (£915.33) |
| 2010 | ADC £825 (£969.38) |
| 2010 | DVI £825 (£969.38) |

Gallery 2010 From
£779 .00 EX VAT
£915.33 INC VAT

"The thing we didn't like is that we had to give it back."
EDITORS' CHOICE, MacAddict

"We recommend putting it on your wish-list immediately."
4 1/2 mice, Macworld BUYING ADVICE



Add Pantone color calibration to Gallery displays for only **£169** (198.58 inc vat)



FORMAC STUDIO

The Video Producers dream

Convert your analogue videos to native DV. Want to share new movie productions with friends and family but they only have analogue VCR's? Formac Studio range records back your digital videos to any analogue recording device. Available for Mac or PC.

Main Features

- ▲ Convert analog to digital video and vice versa
- ▲ Capture analog and digital video full-screen at 25 fps
- ▲ Includes Webtools for web streaming and broadcasting
- ▲ Hardware CODEC delivers industry-leading 28 Mbit/s DV compression
- ▲ Record audio in digital quality (48 kHz, 16 bit)
- ▲ Works with leading video editing software such as iMovie, Final Cut Pro etc.
- ▲ Real-time and frame accurate editing
- ▲ Works with all FireWire equipped PC's and Mac's



Formac Studio DV
£225 .00 EX VAT
£264.38 INC VAT

DEVIDEON SUPERDRIVE

Make DVD movies, CD-Rs & more!

Formac Devidion Superdrive is the world's first external solution to bring affordable DVD creation to your computer. The new FireWire DVD-RW & CD-RW drive is based on the Pioneer A-06 mechanism and comes with data burning and authoring software for the Mac or PC.

Special offer - White finish only

Main Features

- ▲ Store up to 4.7Gb of data onto a DVD
- ▲ Uses mpeg encoding software to create standards-compliant DVD's
- ▲ Also functions as CD-R/RW
- ▲ Includes data burning software - Devidion Burn for Mac or Nero 5.5 for PC
- ▲ Includes DVD authoring software - Devidion for the Mac or Pinnacle Express for PC
- ▲ White finish - SPECIAL LIMITED OFFER



Limited Offer
£195 .00 EX VAT
£229.13 INC VAT

STUDIO TVR

Offers both analog-to-DV conversion and TV viewing

The Studio TVR and our TVR software turn your Mac into a high-quality digital video recorder. The movies can also be exported to tape that can be played on traditional VCR players. Experience and use TV like you never have before, features include iMovie™ 3 remote control, watch up to 125 channels, favourite channel list and pause live TV. Plug, play and replay!

Main Features

- ▲ Convert analogue to digital video and vice versa
- ▲ The only DV converter which lets you record audio
- ▲ Includes Formac software featuring TV tuner, easy recording + scheduling and frame grabbing
- ▲ Formats include DV, iLink, Digital 8, Video8, Hi 8, VHS



Formac Studio TVR
£279 .00 EX VAT
£327.83 INC VAT

CD-R/RW DRIVE

The best looking and best performing CD-RW!

Formac CDRW 52x24x52 is an ultra-fast FireWire CD-RW drive that offers a 3-in-1 solution, allowing you to record, erase and rewrite CDs - all that with unparalleled reliability and speeds. With the Formac CDRW you can write a 650MB disc in well below 3 minutes and it comes with Roxio Toast CD burning software.

BURN-Proof eliminates buffer underrun errors that occur in fast write modes. These are the errors that result in wasted "coasters" - CDs rendered unusable due to a buffer under run error during recording.



Up to 52x write
52x24x52 CD-R/RW
£80 .00 EX VAT
£94.00 INC VAT



PRONITRON 19/950F

Diamondtron display

A professional monitor, with high picture quality & colour accuracy

- ▲ Diamondtron tube
- ▲ 1600 x 1200 @ 88Hz
- ▲ 24mm dot pitch
- ▲ 18" viewable

Formac 19/950
£235 .00 EX VAT
£276.13 INC VAT



PRONITRON 22/880U

NF Diamondtron

Ideal for advanced applications such as Pro DTP, CAD, 3D, Graphic & Web Design

- ▲ 2048 x 1536 @ 86Hz
- ▲ 0.24mm unified pitch
- ▲ USB hub - 1 up, 3 down
- ▲ Dual video inputs
- ▲ 20" viewable

Formac 22/800U
£495 .00 EX VAT
£591.83 INC VAT

Note: Prices quoted are for cheque, cash, debit cards or buy now pay in 6 months orders only. Written quotations available upon request. Consumers Statutory rights are not affected. Prices exclude carriage at TNT published rates. E&OE. All products and offers subject to Computer Warehouse Limited Terms of Trade available upon request. All trademarks respected. Photographs shown for illustration purposes only. Bundled software supplied on CD or pre-installed. E&OE.

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 - ✓ Connection to the Internet via your ISP (not ADSL)
 - ✓ Installation of up to 5 software applications ‡
 - ✓ Connection of up to two USB peripherals. See page 32 for more details.

‡ Software purchased from CW at time of CPU



Get the most out of your digital camera

Whether your camera uses a Multimedia Card, Compact Flash or Secure Digital, CW is your 1st stop for cards and readers. Integral supplies our Multimedia cards, Secure Digital and Compact Flash media, bringing together the world's biggest CompactFlash manufacturers all under one brand. The highest quality and reliability. With CW you can have it all. In addition there's the Integral 6-in-1 card reader. - V's got every base covered!

Why use a Card Reader?

- Speedier than using camera's serial connection, an Integral USB Card Reader transfer images to your computer up to 10 times faster. And you save your camera batteries too.
- ▲ 10 times faster than downloading images
- ▲ Installs in minutes with USB plug & play
- ▲ Extends the life of your camera battery
- ▲ Mac OS 9 or 10.2

6-IN-ONE USB CARD READER

Top value USB card reader

With your digital cameras, MP3 players etc. all using different types of removable storage media, you need a device which can handle them all. And here it is. The new 6-in-1 device which does the lot!



Use with:

- ▲ Compact Flash
- ▲ Multimedia
- ▲ SmartMedia
- ▲ Secure Digital
- ▲ IBM Microdrive
- ▲ MemoryStick

CW Awesome Price
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INTEGRAL USB2.0 FLASH DRIVE

Ultra compact storage

Conveniently transport your data between your school/Office and Home. Small enough to carry in your pocket or on your key-chain. Compliant with USB 2.0 specification. Read at up to 7.2MB/s and write at up to 5.6 MB/s.



FLASH DRIVE

128MB	£39.00	£45.83
256MB	£59.00	£69.33
512MB	£99.00	£116.33
1GB	£209.00	£245.83

EX VAT INC VAT

128MB USB 2.0 Flash Drive
£39.00 EX VAT
£45.83 INC VAT



Integral supplies our Multimedia cards, Secure Digital and Compact Flash media, bringing together the world's biggest CompactFlash manufacturers all under one brand.

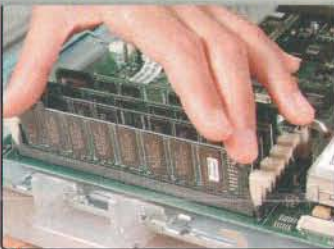
MULTIMEDIA CARDS	SECURE DIGITAL	XD CARD
32MB £15.00 £17.83	64MB £25.00 £29.33	32MB £15.00 £17.83
64MB £22.00 £25.83	128MB £39.00 £45.83	64MB £25.00 £29.33
128MB £35.00 £41.13	256MB £89.00 £104.33	128MB £45.00 £52.83
	512MB £189.00 £222.33	256MB £89.00 £104.33
		512MB £149.00 £175.83

EX VAT INC VAT

COMPACT FLASH	SMARTMEDIA
64MB £20.00 £23.33	32MB £12.00 £14.10
128MB £29.00 £34.08	64MB £19.00 £22.33
256MB £49.00 £57.33	128MB £29.00 £34.08
512MB £99.00 £116.33	
1GB £175.00 £205.83	

EX VAT INC VAT

CW's SmartMedia cards are manufactured by Samsung, the world's largest memory manufacturer.



Spec your new Mac with extra memory & CW can install it from £9.95 ex VAT prior to shipping.

**£9.95 EX VAT
MEMORY
INSTALLATION**

**256
MB DIMM**
**512
MB DIMM**

DDR PC2100 DIMM
£39.00 EX VAT
£45.83 INC VAT

DDR PC2100 DIMM
£79.00 EX VAT
£92.83 INC VAT

Due to market fluctuations memory and hard disk prices are subject to change. Please call to confirm pricing before ordering.

THE CW EASY MEMORY PRICE MENU

Model	128MB	256MB	512MB	1GB
Power Mac G5 1.6Ghz		£39.00	£79.00	£249.00
Power Mac G5 1.8Ghz / Dual 2.0Ghz		£49.00	£89.00	£319.00
Power Mac G4 Dual Processor 1Ghz		£39.00	£79.00	
Power Mac G4 Dual 1.25Ghz/1.42Ghz		£39.00	£79.00	
72/73/75/76/85/86/95/9600 Series	£59.00			
Power Mac G4	£35.00	£59.00	£79.00	
Power Mac G4 (with CDRW drives)	£35.00	£59.00	£79.00	
Power Mac G4 Cubes	£35.00	£59.00	£79.00	
Power Mac G4 Dual Processor				
867mhz or Single Processor 1Ghz	£25.00	£39.00	£59.00	
Power Mac G3 (biege)	£35.00	£59.00		
Power Mac G3 (blue & white)	£35.00	£59.00		
iMac (with LCD display)	£35.00	£59.00	£89.00	
iMac (with slot loading cd drives)	£35.00	£59.00	£79.00	
iMac (with tray loading cd drives)	£35.00	£59.00		
iBook (14.1" screen)	£35.00	£49.00	£89.00	
iBook (300MHz versions)	£35.00			
iBook (firewire version)	£35.00	£69.00		
iBook (purchased after oct 2001)	£35.00	£49.00		
Powerbook G3 (lombard USB port)	£35.00			
Powerbook G3 (pismo with USB and firewire port)	£35.00	£59.00	£89.00	
Powerbook G3 (wallstreet with white Apple logo and SCSI port)	£35.00	£59.00		
Powerbook G4 (400MHz/500MHz)	£35.00	£59.00	£89.00	
Powerbook G4 (550MHz or faster)	£35.00	£59.00	£89.00	
Powerbook G4 12"		£59.00	£109.00	
Powerbook G4 17"		£59.00	£109.00	£389.00

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This is...

"These new displays look fab to me - but I expect nothing less from NEC!"

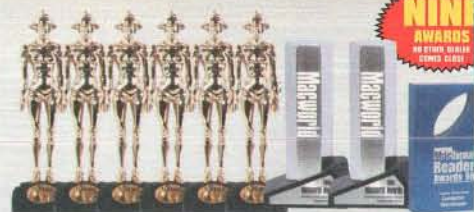
computer warehouse

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APPLE DIRECT ACCOUNT



MultiSync Series

New NEC LCD TFT flat panel displays

TFT LCD TECHNOLOGY

DVI-D VERSIONS

VGA VERSIONS

Professional and office imaging

For users who need superior image quality in a small space, MultiSync LCD Series monitors deliver bright, sharp screen performance in a slim, lightweight package and offer revolutionary flexibility to meet all your needs. Enhance your visual experience at an unrivalled price with the NEC MultiSync Series, space-saving LCD monitors with thin frames that allow you to focus more on your ideas and less on the monitor's bezel. No Touch Auto Adjust adjusts the monitor to optimal settings upon initial power-on while low energy consumption reduces costs over the monitor's life. All versions are available in either white or black with silver bezel. Please confirm when ordering.



15-INCH LCD 1560NX

£215.00 EX VAT
£252.63 INC VAT

17-INCH LCD 1760NX

£315.00 EX VAT
£370.13 INC VAT

18-INCH LCD 1860NX

£405.00 EX VAT
£475.88 INC VAT

Main Features

- 1560NX - 15" (38cm) TFT Display**
- Resolution 1024 x 768
 - 30 ms response time
 - Viewing angle 120° horizontal, 90° vertical (at contrast ratio 10:1)
 - Bezel size 17mm
 - ISO 13406-2 certification
- 1760NX - 17" (43cm) TFT Display**
- Res. 1280 x 1024 @ 60 Hz
 - 16.2 million colors
 - Viewing angle 140° horizontal, 140° vertical (at contrast ratio 10:1)
 - 16 ms response time
 - Brightness: 260cd/m2
 - NTAA (Non-Touch-Auto-Adjustment) technology
- 1860NX - 18" (46cm) IPS TFT Display**
- Res. 1280 x 1024 @ 60 Hz
 - 16.77 million colors
 - Viewing angle 160° horizontal, 160° vertical (at contrast ratio 10:1)
 - 0.281 mm pixel pitch
 - Dimensions 398 x 369.5 x 200 mm
 - 30 ms response time
 - Horizontal freq: 31-82kHz

Diamond Plus

Superb new Mitsubishi Diamondtron monitors

19" DISPLAY

22" DISPLAY



Great picture quality - top CW value!

Designed for discriminating users who require superior image quality along with the latest innovations resulting in greater overall performance. These new models feature the award winning Mitsubishi DIAMONDTRON™ aperture grille tube for a totally flat super sharp image & new enclosures. The Diamond Plus line is excellent for home, business, desktop publishing and graphic design applications. The new Plus230SB is available in both white with silver bezel and black with silver bezel. Please confirm when ordering.

Main Features

- Diamond Plus 93SB - New SuperBright tube!**
- 19-inch (18") DIAMONDTRON™
 - Naturally Flat Aperture Grille screens
 - Grille pitch 0.25 - 0.27 mm
 - Optimum resolution 1280 x 1024
 - Horizontal frequency 31 - 96 kHz
 - sRGB support
- Diamond Plus 230SB - New SuperBright tube!**
- 22-inch (20") DIAMONDTRON™ Naturally Flat Aperture Grille
 - Grille pitch 0.24 mm (constant)
 - Optimum res. 1600 x 1200
 - Horizontal frequency 30 - 115 kHz
 - DDC/CI compatible
 - sRGB support
 - Choose white with silver bezel or black with silver bezel finish

19-INCH DIAMOND PLUS 93SB

£175.00 EX VAT
£205.63 INC VAT

22-INCH DIAMOND PLUS230SB

£395.00 EX VAT
£464.13 INC VAT

SMARTDISK™

Simplifying The Digital Lifestyle™

FLASHTRAX

Digital multimedia device

Download your flash memory directly onto FlashTrax. FlashTrax safely stores high-resolution images transferred from any flash memory card onto the built-in USB 2.0 hard drive and displays them on a 3.5" LCD that outperforms tiny on-camera screens. A built-in MP3 player makes this device even more attractive.

Main Features

- Pictures** - Store JPEG photos on integrated hard drive. View stored photos on large 3.5" color LCD, with ability to zoom, pan and rotate. Supports RAW file format on selected cameras
- Music** - Portable MP3 "jukebox". Supports your iTunes play lists
- Video** - Watch videos with audio soundtrack - compatible with the video formats created by the "movie" mode of many digital still cameras AVI (MJPEG, AVI files).
- Connect to your PC** - Transfer and backup photos (or video, music, voice, etc.) from CompactFlash media, through built-in reader and simple one-step "Copy" button. Easily connect to your PC through high speed USB 2.0.



FlashTrax from only

£259.00 EX VAT
£304.33 INC VAT

CROSSFIRE

Solve your storage problems now!

The CrossFire external hard drive instantly adds high-performance storage in an attractive design for your PC or Mac. Connect it to either a FireWire or USB 2.0 port and you're ready to store thousands of digital photos, videos, MP3 songs and other electronic files.

Main Features

- CrossFire's combo interface can connect to either a USB 2.0 or FireWire port
- Store thousands of digital photos, videos and MP3s and backup all your system data
- Fast, high-performance 7200 RPM hard drive
- Can be "daisy-chained" to your other FireWire peripherals
- Quiet "no fan" operation
- Plug-n-play operation for most operating systems



CrossFire from only

£119.00 EX VAT
£139.83 INC VAT

FLASHHOPPER

Ultimate portable USB Flash memory

Portable data storage with plug-n-play ease of use, the FlashHopper is the fastest and easiest way to transport and share files from your home or office computer. Simply plug FlashHopper into the USB port of any computer, copy the files you want, unplug and you're done. Vital data presentations, documents, MP3s, digital video and photos can be copied safely in seconds. Available in 64MB, 128MB, 256MB and 512MB versions.



FlashHopper from only

£29.00 EX VAT
£34.08 INC VAT

PORTABLE DIGITAL STORAGE

FlashTrax 30GB Digital storage device USB 2.0 Mac/Win	£259.00	£304.33
FlashTrax 40GB Digital storage device USB 2.0 Mac/Win	£319.00	£374.33
FlashTrax 80GB Digital storage device USB 2.0 Mac/Win	£419.00	£492.33

DESKTOP HARD DRIVES

CrossFire 120GB 7200rpm FireWire & USB 2.0 Mac/Win	£119.00	£139.83
CrossFire 200GB 7200rpm FireWire & USB 2.0 Mac/Win	£189.00	£222.83
CrossFire 250GB 7200rpm FireWire & USB 2.0 Mac/Win	£249.00	£292.83

PORTABLE HARD DRIVES

FireLite 20GB FireWire 2.5" HD Drive Mac (bus pwr'd)	£99.00	£116.33
FireLite 40GB FireWire 2.5" HD Drive Mac (bus pwr'd)	£129.00	£151.33
FireLite 60GB FireWire 2.5" HD Drive Mac (bus pwr'd)	£169.00	£198.33
FireLite 80GB FireWire 2.5" HD Drive Mac (bus pwr'd)	£219.00	£257.33
FireLite 40GB USB 2.0 2.5" HD Drive Mac (bus pwr'd)	£119.00	£139.83
FireLite 60GB USB 2.0 2.5" HD Drive Mac (bus pwr'd)	£159.00	£188.33
FireLite 80GB USB 2.0 2.5" HD Drive Mac (bus pwr'd)	£199.00	£233.33

USB FLASH DRIVES

FlashHopper 64MB USB Flash Drive	£29.00	£34.08
FlashHopper 128MB USB Flash Drive	£49.00	£57.33
FlashHopper 256MB USB Flash Drive	£69.00	£81.33
FlashHopper 512MB USB Flash Drive	£109.00	£128.33

MEDIA READER FOR FLASHTRAX

5 in 1 Adapter Supports Memory Stick, SmartMedia, Memory Stick Professional, MMC & SD	£39.00	£46.33
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FIRELITE

An ultra-compact drive!

A portable external hard drive with great looks, huge storage capacities and a trim design that makes it easy to carry and use either at your desk or on the go. FireLite is available in 7 models:

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- No drivers to install - just plug it in and use it
- FireWire maintains 22MB/sec transfer rates
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- 20 - 80GB

FireLite from only
£99.00 EX VAT
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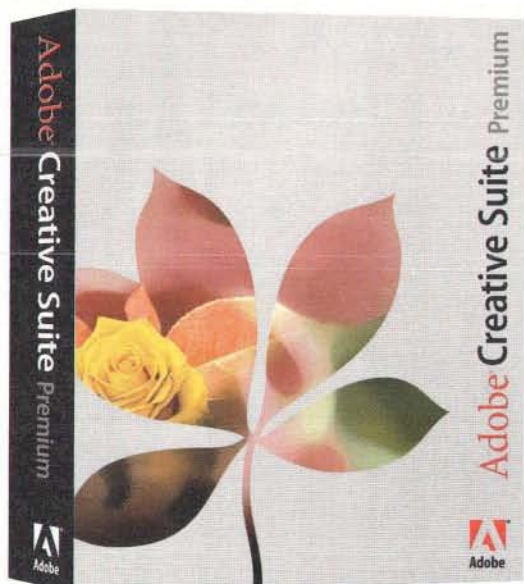
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Creative Suite

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Creative Suite
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Also available is a **Standard** edition, which combines Photoshop CS, Illustrator CS, and InDesign CS - also supported by Version Cue file-management features, an Adobe PDF workflow, and training resources - for a comprehensive publishing solution.

Main Features

- ▲ **Complete design integration** - Experience unmatched integration with full new versions of the industry's leading and most trusted professional creative applications.
- ▲ **A complete toolset** - Use a complete set of the industry's foremost design tools - built to work together and priced affordably.
- ▲ **Design and training resources** - Get the most from your software with in-depth tips, expert tricks, and comprehensive design resources.
- ▲ **Intuitive file finding** - Use Version Cue™ to find files quickly by viewing thumbnails or search on robust metadata such as description, keywords, author, copyright, and file type.
- ▲ **Smooth workflow** - Boost your productivity with time-saving integration and a smooth Adobe Portable Document Format (PDF) workflow.
- ▲ **Common interface and toolset** - Come up to speed quickly and work efficiently using common commands, tools, palettes, and keyboard shortcuts.
- ▲ **Single installer** - Control what you install and when you install it. Get the functionality most suited to your needs or install everything at once to ensure that the right tool is always there when you need it.
- ▲ **Expanded support options** - Receive 90 days of complimentary support and then take advantage of Adobe Studio™ resources or extended Expert Support options.
- ▲ **Cross-media publishing** - Position yourself for the future and take your skills to the next level by creating content for both print and the Web.
- ▲ **Upgrade ease** - Minimize frustrating incompatibilities and enjoy the convenience of upgrading your Adobe toolset all at once.

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Full box price £515 (£605.13)
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- ▲ Advanced typographical controls
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- ▲ Adobe PDF layers support
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- ▲ 3D effects - Create custom 3D
- ▲ Expanded print capabilities
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- ▲ Save As Template command
- ▲ 200 pro-designed templates
- ▲ Over 100 OpenType® fonts
- ▲ Video tour of new features

Full box price £435 (£511.13)
Upgrade from only £139 .00 EX VAT
£163.33 INC VAT

GOLIVE CS



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Adobe® GoLive® CS software delivers what you need to create professional Web sites, including smooth integration with Adobe software. Upgrade today for:

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- ▲ Advanced Adobe PDF integration
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- ▲ Visual CSS authoring
- ▲ Source code completion
- ▲ XML editing and validation
- ▲ GoLive Co-Author™ mode

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- ▲ Flexible workspace management
- ▲ Enhanced support for PSD
- ▲ Usability enhancements
- ▲ Nested styles
- ▲ Running headers and footers in tables
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- ▲ Enhanced XML support
- ▲ Document presets

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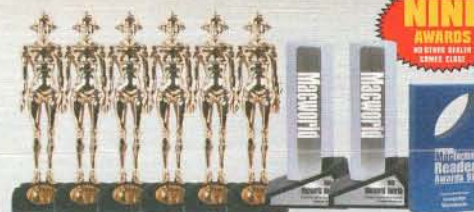
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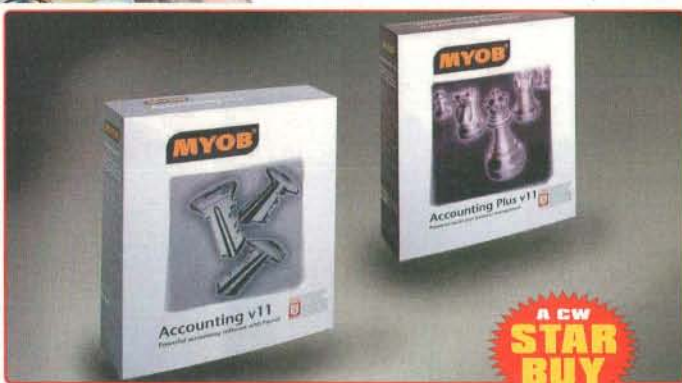


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MACDRAFT 5.5

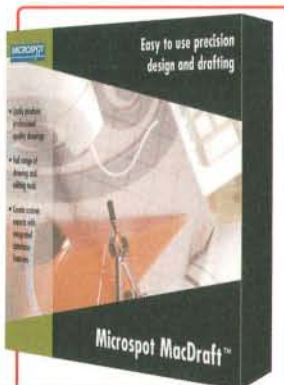
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Designed for CAD users of all levels, Microspot MacDraft 5.5, Quartz Edition has new features to enhance performance and improve image and text quality. Features include Quartz Graphics with transparency for text & images, ATSUI text, import picture, the ability to use the resize palette with pixel maps & paragraph text and the ability to modify drawings in Adobe Illustrator. A full complement of drawing tools as well as linked dimensioning will automatically update dimensions as you modify components. Its multi-layered, scaled drawing environment supports both imperial and metric dimensions. Together, these features make MacDraft a superior product for CAD and graphic design. Perfect for producing simple sketches or complex drawings, Microspot MacDraft is excellent for mechanical, architectural and engineering design as well as technical illustration. Microspot MacDraft offers compatibility with AutoCAD and other programs supporting DWG/DXF. If you have never worked with a drafting program before, you will appreciate MacDraft's ease of use, which allows you to quickly create professional-quality drawings.

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- ▲ Transparency for images and text
- ▲ Compatible with Adobe Illustrator
- ▲ ATSUI text for superior text quality
- ▲ Compatible with AutoCAD and other apps supporting DWG/DXF
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softpress

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FREEWAY PRO

Intuitive web design!

The Freeway family of Mac Web-authoring products offers a full range of features to support content creation, site production and management - the choice for professionals and amateurs who prefer to focus on design issues... not on coding! Drag-and-drop virtually any type of document straight on to your page, and if you need to re-create an existing Web site, simply drag the existing web elements directly into your Freeway project.

What are FAST Packs?

▲ FAST (Freeway Advanced Site Tools)

Gives you the power to manipulate photos, generate artwork, create complex drop-down menus and automatic site maps, and more.

▲ What is the Graphics (Gtx) Pack

A collection of Freeway Actions and consists of various tools and a wide range of graphical effects.

▲ Navigation (Nav) Pack

A suite of four Freeway Actions which make it quick and easy to introduce, maintain and create complex navigational items.

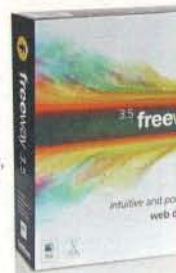
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NEW VERSION
v6



What's New...

In addition to enhanced data and audio CD tools, Toast 6 also includes the ability to edit and burn both photo and video CDs. It is also bundled with a new version of CD Spin Doctor, for digitising analog audio from vinyl and tapes, and with a new Motion Picture application for creating slideshows. Plus Toast enables the management and scheduling of backups, either to CD or DVD via Toast or to an external device or server. Audio CD creation is improved by closer integration with iTunes - songs can be dragged direct from the iTunes window into Toast and then burnt to a variety of CD formats, including standard audio MP3. All decoding and encoding is handled by Toast.

Motion Picture is a new application that enables the creation of "moving" image slideshows. As well as standard slideshow tools, such as blending from one image to the next, Motion Picture has a zoom feature.

TOAST 6 TITANIUM

The essential foundation for your digital life

New Toast® 6 Titanium is the standard for CD & DVD burning on Mac OS X. Back up, compress, encrypt and password-protect your important data. Burn perfect audio and enhanced audio CDs, or digitise old records and tapes. Turn still photos into stunning media shows with Hollywood-style pan and zoom effects, cross fades, and soundtracks. Plug & Burn™ and create video discs directly from your DV camcorder, automatically and effortlessly. Burn Video CDs, Super Video CDs, and DVDs, with menus, buttons and chapters, and view them on a home DVD player or computer. Do it all with Toast 6 - the essential foundation for your digital life!

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WIRELESS INTELLIMOUSE
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New revolutionary Tilt wheel provides smooth scrolling, easily move between open windows by pushing down on the scroll wheel. Features 5 buttons, wireless freedom with longer battery life and PS/2 or USB connection.

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Performance and style look better than ever. Get everything you've always wanted with a keyboard and mouse in one package! Microsoft® Wireless Optical Desktop gives you wireless freedom, stylish looks, and one-touch features. With customisable keys, optical mouse technology, and a cool design, it's the all-in-one desktop solution.

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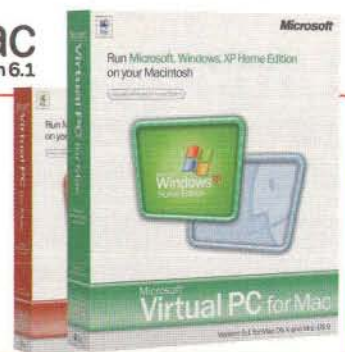
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v6.1**

Mac OS
X
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New Features

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- ▲ Enhanced back-up support in Mac OS X
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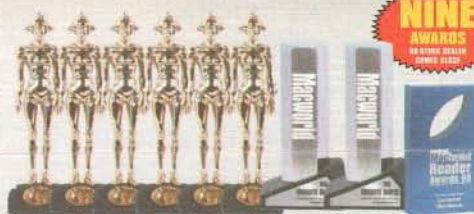


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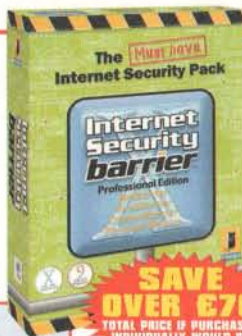
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Total i-security Solution designed for Jaguar Mac OS 10.2!

The must-have security solution for your Mac

A full security suite that protects Macs from all dangers. This suite contains NetBarrier, VirusBarrier, ContentBarrier, Personal Backup which are all compatible Mac OS 8, 9 and X.

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Internet security solution - 4 products in 1!
Four-level line of defense provides optimal security so that you can use the Internet without leaving yourself vulnerable to its dangers.

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New parental control solution for your Mac

Parental control system for OS 9 and X: avoid inappropriate e-mails delivery or offender to contact your kid via chat rooms; block access to inappropriate web sites

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Performs complete folder and volume backup, restoration or synchronization without any interference with your work. Clone your Mac OS X volume.

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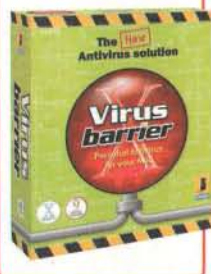
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The new Antivirus solution for your Mac

If the Internet is your primary source of information, it is also the main way that viruses are transmitted. Mac users need to protect themselves more than ever when downloading files, receiving e-mail and transmitting documents by the Internet. VirusBarrier uses the most recent advances in antivirus technology. It identifies and eradicates viruses, and prevents your Mac from being infected by viruses. The innovative interface is easy to use, and you can scan your Macintosh, or any disk or volume, with just one click. VirusBarrier is fully compatible with Intego's acclaimed NetBarrier personal firewall. Together they provide a complete Internet security solution for your Macintosh.

- ▲ Antivirus for OS 9 and X, including System and Macro viruses
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Ultimate Survival Kit

5 essential colour reference tools!

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The essential 3-guide set

This convenient three-guide set makes it easy for graphic designers to accurately select, specify and communicate solid colors. Guides contain 1,114 solid Pantone Matching System® Colors, with their respective ink mixing formulas, printed on coated, uncoated and matte stocks.

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SOLID TO PROCESS GUIDE COATED EURO



1,089 colors with CMYK values

The PANTONE solid to process guide EURO shows what happens when you attempt to reproduce a solid Pantone Matching System® Color in four-color process printing. The fan guide displays 1,089 solid PANTONE Colors on coated stock alongside their closest 4-color process match. Great for users upgrading to Quark 6

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COLOR CUE

Find the PANTONE color at the touch of a button

Find the PANTONE colour and re-purpose for process printing, web publishing and much more. Just point and click. That's all it takes to get an indication of the nearest PANTONE Color. Go to your PANTONE Color manual to verify the colour & off you go. If you want to use different printing processes or re-purpose for the web, Color Cue provides the information to get you started.



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Peripherals & Accessories

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Artistic License

WACOM Intuos tablets and Corel Painter 8 are the keys to two successful artists' very different styles.

Richard Bazley has brought to life characters in such blockbuster animated movies as *The Iron Giant*, *Osmosis Jones*, *Who Framed Roger Rabbit* and Disney's *Hercules* – and is at the cutting edge of animated shorts thanks to new technology and a WACOM Intuos graphics tablet.

"Technology is a good thing," says Bazley. "Technology is something the artist should embrace and use, and not be afraid of. Imagine Leonardo Da Vinci – he would love all the advancements and would be the first to use them!"

You don't have to abandon traditional skills – quite the contrary. Those skills should still be taught, and once mastered, you have absolute control over any tool you should choose to pick up," says Bazley.

It's cutting-edge technology that is part of the creative process in Bazley's personal and professional work today. He's a big fan of the WACOM graphics-tablet range, and used the power of the Intuos Professional Graphics Tablet System to create his award-winning animation-short based on the book *The Journal Of Edwin Carp*, written by Richard Haydn and illustrated by Ronald Searle. The story covers the misadventures of the central character, Edwin Carp, who manages to turn a simple chore into a humorous escapade. The character Edwin Carp is best described as a sort of English Mr Magoo.

Bazley used Macromedia Flash and WACOM's Intuos tablet system to create his animation. The Intuos system provides an ergonomic tool for every digital design professional, videographer, 2D/3D designer and other creative professional. The Intuos USB tablets, combined with the varied range of Intuos input devices, provide versatile and highly refined implements for electronic painting, illustrating, digital editing and navigation.

"The real excitement came when I could see how the sensitivity of the line on the tablet and the ink looked, and the spontaneity that the Intuos gave me," he says.

Bazley returned to the UK two years ago to set up Bazley Films, and has created scenes for the BBC animation *The Cuning Little Vixen*, plus creating a sequence for Filmmax's animated epic *El Cid*, and for Disney TV's *The Lion King 3*. Bazley is back in the U.S. working on the Warner Bros follow-up to *Space Jam*, and then is back to the UK to form a new company with three other partners – one of whom is Gary Kurtz, a producer on the original *Star Wars* movie.

"As you can imagine, I am more than a little excited about this new venture."

The WACOM Advantage

The WACOM Intuos range is an expandable tablet system with many different input devices. Much like a traditional artist would have several different types of paintbrush for different effects, WACOM offers a numbers of different input devices.

The Stroking Pen

The Stroking Pen lets designers create in a style as if they were using a felt pen. Bazley used it several times in *The Journal of Edwin Carp*. "The stroking pen offers a different quality of strokes. It's a fluid kind of graphic, almost like a Chinese pen," says Bazley.

The Inking Pen

The Inking Pen lets the artist design on paper and simultaneously design on screen simply by placing the paper on top of the tablet. WACOM's tablets use a magnetic resonance technology – so the information from the pen is transmitted through the paper to the tablet surface and directly to the computer.

Pressure Sensitivity

Like Ronald Searle, Bazley wanted to get a variety of 'thicks and thins' in his animation. Ronald Searle used to do this by collecting antique ink pens with different nibs. Bazley got the same effect using the tablet and software. Using pressure sensitivity, Bazley could draw a smooth line but get a variety of thickness in it so that the drawing looks natural. With the combination of the pen and the features in Macromedia Flash supported by WACOM, he was able to get any result he desired. "The key to the film is the thicks and thins. The great thing with the Intuos pen is that it is very tactile so the harder or lighter you press, the thicker or thinner a line is," he says.



A Painter's Palette

Christiane Kubrick has been exhibiting her art since the 1960s; she's been Chair of the Women's International Art Club – and she's also a big fan of Corel Painter 8.

Christiane joined the Corel team for the UK launch of Painter 8, where she was enthusiastic about the new layout, and the improved tools. "I also prefer the change they have made to the cursors that go with the brushes. In the previous version if you made a very small, fine brush, you couldn't see the cursor until you touched the canvas. They have solved this in the present version. I love the new Acrylic brushes; they are especially subtle. The Digital Watercolour is fantastic as well; the spreading edges look just like real watercolour. I wish real watercolour were as obedient and full of miracles. Like being able to paint yellow over blue. Everything I have looked at has improved, like the oil colours. They have added 'thick' oils and using the old 'clear impasto' with these new thick oils and acrylics has exactly the same flattening out effect as using a rag on your canvas. And the glazing is just like real glazing. It is even more like real painting techniques than it was before."

Like everyone who tries it out, she's impressed with the new palette for mixing colours. "I love the Colour Mixer. Many painters as they mix colours are seduced by the in-between tones that result from smearing colour around, and the Colour Mixer does this almost as well as the real thing." And she likes the way Painter isn't isolated from traditional painting techniques. "Anyone who has been interested in painting of any kind would find it the most natural choice. It lures with a list of already familiar names, all the friendly words that artists know, unlike other computer gobbledygook."

"I myself have tried things in conventional oil paint that I would not have thought of; I needed a computer to give me the idea. I



use it to play a game of comparing the possible choices of background colour and composition much more often than I used to, as it became too time consuming. I make thumbnail sketches, cutting and pasting shapes and compositional ideas and then I use 'Adjust colours' to try thousands per second changes of background colour. I have always done this to an extent, but now I'm constructively obsessed with it."



WACOM
Intuos2

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COREL
Painter 8

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UMAX PowerLook 1120

Leads the field for high resolution scanning and speed



The PowerLook 1120 leads the field for high resolution scanning and speed. Its top quality optics combined with its FireWire/IEEE1394 connection make this the scanner for the professional with no time to lose.

This highly productive scanner is a must in busy scanning environments. Its new high density of 3.7D helps to capture more shadow detail when scanning transparencies. The ultra-fast FireWire/IEEE1394 connection allows scan speeds between two and four times faster than comparable SCSI scanners, and is hot-pluggable as well!

The PowerLook Graphic Plus version includes UMAX's easy-to-use MagicScan driver. The Professional version of the scanner includes MagicScan and Binuscan PhotoPerfect RGB/CMYK, which provides exceptionally high-quality results from transparencies and reflective prints. The Photo version has been produced to include a copy of SilverFast scanning software.

- ✓ 1200 x 2400dpi A4 scanner
- ✓ FireWire/IEEE 1394 interface
- ✓ Density: 3.7D
- ✓ Scanning area: reflective: 215.9 x 297mm transparency: 203 x 254mm
- ✓ Scanning Speed: 9.6ms/line colour 4.8ms/line colour speed mode
- ✓ RGB colour depth: 42-bit
- ✓ Greyscale: 14-bit
- ✓ Colour scanning method: single pass, colour CCD
- ✓ Highlight/shadow: 256 steps

Description	Prices Ex VAT
PowerLook 1120 Photo A4 Mac/Win	£849.99
PowerLook 1120 Graphic Plus Mac/Win	£799.99
PowerLook 1120 Pro A4 Mac/Win	£849.99

UMAX PowerLook 1000

The NEW affordable mid-range scanner featuring both FireWire and USB



The PowerLook 1000 is the ideal low cost high resolution scanner. Its fast FireWire/IEEE1394 and USB connections make this the scanner for designers or photographers.

This high resolution scanner is a must in busy scanning environments, where good results are required for in-house brochures, inkjet printing and positional scanning. The optical density of 3.0D enables the capture of detail in both shadows and highlight areas.

The full A4 scanning area allows all sizes of transparency to be scanned, and the excellent batch scanning ability of MagicScan or SilverFast can be employed to capture complete photographic archives efficiently. 42-bit output can be selected for those working to higher specifications and wishing to retain the maximum tonal range for further manipulation. FireWire enables you to re-connect the scanner to a computer without having to restart the system.

- ✓ 2400 x 2400dpi A4 scanner
- ✓ FireWire/IEEE 1394 and USB1.1 interface
- ✓ Density: 3.0D
- ✓ Scanning area: reflective: 215.9 x 297mm, transparency: 203 x 254mm
- ✓ Scanning speed: 9.6ms/line colour 4.8ms/line colour speed mode
- ✓ RGB colour depth: 42 bit
- ✓ Greyscale: 14 bit
- ✓ Colour scanning method: single pass, colour CCD
- ✓ Highlight/shadow: 256 steps

Description	Prices Ex VAT
PowerLook 1000 Photo Mac/Win	£449.99
PowerLook 1000 Graphic Plus Mac/Win	£399.99
PowerLook 1000 Pro A4 Mac/Win	£449.99

UMAX PowerLook 2100XL

The ideal scanner for oversized images



This multi-award-winning A3 flatbed features UMAX's unique and cutting edge Moving Mirror Technology. Using the fixed CCD and lens system pioneered in the PowerLook 3000, this leading edge design ensures stable, linear scans and provides unparalleled sharpness and detail.

The PowerLook 2100 XL is designed specifically for scanning reflective prints and large format transparencies. This A3 scanner has a neat compact design but offers a full 305 x 432mm scan area.

Whilst many manufacturers are still trying to catch up with 32-bit scanners, UMAX have released Bit Enhancement Technology (BET), giving 42-bit scanning output. BET is a proprietary technology for optimising scan quality and colour range, and also prevents loss of data in analogue to digital and correction processes. What do these features give you? A much sharper image, through more distinct detail in the shadow and highlights of the picture.

- ✓ 800 x 1600dpi A3 scanner
- ✓ SCSI II interface
- ✓ Density: 3.4D
- ✓ Scanning area: reflective: 305 x 432mm transparency: 305 x 432mm
- ✓ Scanning Speed: 10.8ms/line full colour
- ✓ RGB Colour Depth: 42-bit
- ✓ GreyScale: 8-bit and 14-bit
- ✓ Colour scanning method: single pass, 10,600 elements tri-linear CCD

Description	Prices Ex VAT
PowerLook 2100XL Graphic Plus Mac/Win	£1,099
PowerLook 2100XL Pro A3 SCSI Scanner inc Transparency Mac/Win	£1,199
PowerLook 2100XL Photo A3 SCSI Scanner inc Transparency Mac/Win	£1,199

UMAX Astra 6700

A combination of high speed and high resolution



The UMAX Astra 6700 scanner combines high resolution scanning with amazing speed thanks to its new USB 2.0 interface. This offers an amazing preview time of around 3 seconds.

With the easy to use push-buttons you can scan directly into MGI PhotoSuite for editing the image. You also get push-button access to copy, Email and use your favourite third party software. Easily manage your documents with the PaperCom Document Manager and the OCR software ABBYY FineReader Sprint.

With the addition of the optional transparency unit, this scanner provides great results when scanning slides on a budget. The USB 2.0 interface provides easy connection to all computers with a USB port. USB 2 is backwards compatible with first generation (v1.n) USB ports. The Astra 6700 uses CCD Sensor Technology (Charged Coupled Device) for improved colour results.

- ✓ 2400 x 4800dpi A4 scanner
- ✓ USB 2.0 interface
- ✓ Maximum scan size: 216 X 297mm
- ✓ Colour depth: 48-bit
- ✓ Greyscale: 16-bit
- ✓ Features Scan, Copy and Email buttons
- ✓ Versatile in multi-platform environments
- ✓ Powerful yet easy to use scanning software
- ✓ Features and functionality for all levels of scanner users
- ✓ Batch scan capability allows you to scan multiple images in one scan job for higher productivity

Description	Price Ex VAT
Astra 6700 A4 Mac/Win	£127.99

UMAX Astra 4700

Faster scanning at the touch of a button



This sleek silver coloured scanner offers high resolution for maximum quality when scanning to print enlargements. The high 48-bit colour depth aids smooth gradations of colours and provide the ability to capture millions more colours.

- ✓ 1200 x 2400dpi A4 scanner
- ✓ USB 2.0 interface
- ✓ 216mm x 297mm scanning area
- ✓ Colour depth: 48-bit
- ✓ Greyscale: 16-bit
- ✓ USB interface

Description	Price Ex VAT
Astra 4700 A4 48-BIT (1200x2400)	
USB Scanner Mac/Win	£59.99

UMAX Astra 4500

Offers 48-bit internal colour in a reasonable footprint



Housed in the same compact and stylish shell as the Astra 4700, the Astra 4500 offers the same high standard of digital imaging with a USB interface. The ability to do batch scans, the 48-bit colour depth, and hot pluggability complete the package.

- ✓ 1200 x 2400dpi A4 scanner
- ✓ Maximum scan area: 216 X 297 mm
- ✓ Colour depth: 48-bit
- ✓ Greyscale: 16-bit
- ✓ Optional transparency cover
- ✓ USB interface

Description	Price Ex VAT
Astra 4500 A4 48-BIT (1200x2400)	
USB Scanner Mac/Win	£50.99

UMAX AstraSlim SE

Slim and stylish design



UMAX presents the AstraSlim SE. Instead of the normal CCD array this scanner uses Contact Image Sensors (CIS), which allow for a very compact construction of flatbed scanner.

- ✓ 600 x 1200dpi A4 scanner
- ✓ Maximum scan area: 216 X 297 mm
- ✓ Colour depth: 48-bit
- ✓ Greyscale: 16-bit
- ✓ Batch scan capability
- ✓ USB powered

Description	Price Ex VAT
AstraSlim SE A4 48-Bit (600 x 1200)	
USB Superslim Scanner Win	£33.99

UMAX Accessories

The wide range of UMAX accessories



Description	Prices Ex VAT
Transparency Adapter for PowerLook 2100	£349.99
Transparency Adapter for PowerLook III	£149.99
Transparency Cover for Astra 2100/6400	£25.99
Transparency Cover for Astra 4500/4700	£33.99
Transparency Cover for Astra 6700	£33.99
35mm slide holder for 6 mounted 35mm slides	£29.99
4" x 5" film holder (two frames per box)	£29.99
6 x 4.5cm film holder for 120 film (two frames per box)	£29.99
6 x 6cm film holder for 120 film (two frames per box)	£29.99
6 x 7cm film holder for 120 film (two frames per box)	£29.99
Film Holder set for Powerlook 2100XL	£68.99

MICROTEK ScanMaker 4800

Ideal for home use



The ScanMaker 4800 is the complete digital imaging solution for your home. Its sleek EDGE design gives you better performance in a 25% smaller scanner.

- ✓ 1200 x 2400dpi Optical Resolution
- ✓ 48-bit Colour Depth
- ✓ A4 Scan Area
- ✓ USB Interface
- ✓ 5 Smart-Touch Buttons
- ✓ Optional Transparency Adaptors

Description	Price Ex VAT
ScanMaker 4800 USB Mac/Win	£68.99

MICROTEK ScanMaker 4900

Affordable performance scanner



The ScanMaker 4900 sets new standards in the entry-level scanner market offering high specifications and low-profile design at a very affordable price.

- ✓ 4800 x 2400dpi optical resolution
- ✓ True 48-bit input & output
- ✓ 7 Smart-Touch Buttons
- ✓ 8.5" x 11.7" scan area
- ✓ USB interface
- ✓ Optional Transparency Adaptors

Description	Price Ex VAT
ScanMaker 4900 USB Mac/Win	£85.99

MICROTEK ScanMaker 5900

Style and performance combined



Packed with high-performance hardware, Microtek's ScanMaker 5900 offers 2400 x 4800dpi optical resolution, built-in 4"x5" transparency adapter and new hi-speed USB (USB 2.0) interface.

- ✓ 2400 x 4800 dpi optical resolution
- ✓ True 48-bit input & output
- ✓ 8 Smart-Touch buttons
- ✓ Transparency Adaptor included
- ✓ A4 scan area
- ✓ USB 2 interface

Description	Price Ex VAT
ScanMaker 5900 USB2.0 Mac/Win	£127.99

MICROTEK ScanMaker 6800

Effortlessly fix your damaged photos



The ScanMaker 6800 is the world's first scanner to integrate Digital ICE™ for Photo Prints enabling it to fix scratched, creased and cracked photos while you scan.

- ✓ 2400 x 4800dpi optical resolution
- ✓ Digital ICE™ for photo prints
- ✓ 48-bit colour depth
- ✓ A4 Scan Area
- ✓ USB 2.0 and FireWire Interface

Description	Price Ex VAT
ScanMaker 6800 Digital ICE USB/FireWire Mac/Win	£297.99

MICROTEK ScanMaker 8700

Versatile professional scanner



The ScanMaker 8700 is at the cutting edge of technology. With an IEEE 1394 connection and chip onboard, it provides the blazing speed that only real FireWire can deliver.

- ✓ 1200 x 2400dpi optical resolution
- ✓ 42-bit colour depth
- ✓ Legal size scan area
- ✓ USB and FireWire interface
- ✓ E.D.I.T. glass-free transparency scanning

Description	Price Ex VAT
ScanMaker 8700 USB/FW Mac/Win	£553.99

MICROTEK ScanMaker 9800XL

Pre-Press A3 scanner



The ScanMaker 9800XL is Microtek's newest member of the A3 scanner family and builds on the success of the ScanMaker 9600XL with greatly improved specifications and connectivity.

- ✓ 600 x 3200dpi optical resolution
- ✓ 48-bit colour depth
- ✓ 3.7D max
- ✓ A3 scan area
- ✓ FireWire, SCSI-2 & USB ports
- ✓ Large transparency adaptor option

Description	Price Ex VAT
ScanMaker 9800XL USB/SCSI Mac/Win	£1,276

MICROTEK ArtixScan 120tf

Flagship multi-format film scanner



Designed from the outset to deliver optimum image quality at an affordable price, the ArtixScan 120tf delivers Pre-Press quality results from 35mm strips and slides plus 6cm film from 6 x 4.5cm up to 6 x 9cm in size.

- ✓ 35mm and 6cm film scanner
- ✓ 4000dpi optical resolution
- ✓ 4.2D maximum optical density
- ✓ Auto-focus and multi-sampling
- ✓ FireWire and SCSI-II interface

Description	Price Ex VAT
ArtixScan 120tf SCSI/FW Mac/Win	£1,702

MICROTEK ArtixScan 1800f

Affordable Pre-Press scanner



The ArtixScan 1800f breaks new ground in delivering extremely high Pre-Press scanning performance at an affordable price.

- ✓ 1800 x 3600dpi optical resolution
- ✓ 48-bit colour depth
- ✓ 4.8D maximum optical density
- ✓ E.D.I.T. glass-free transparency scanning
- ✓ Multi-sampling
- ✓ Temperature control

Description	Price Ex VAT
ArtixScan 1800 USB/FW Mac/Win	£1,275

MICROTEK ArtixScan 2020

Professional A3+ scanner



The ArtixScan 2020 is a truly complete desktop scanning solution for professional users with moderate-to-high production volume requirements.

- ✓ A3 reflective scan area
- ✓ 2000 x 2000dpi maximum optical resolution
- ✓ 3.5D maximum density
- ✓ E.D.I.T. glass-free transparency scanning
- ✓ SCSI interface

Description	Price Ex VAT
ArtixScan 2020 SCSI Mac/Win	£2,977

MICROTEK ArtixScan 4000tf

Will satisfy the most discriminating digital imaging professionals



The ArtixScan 4000tf is Microtek's flagship 35mm film scanner. With up to 4,000 dpi optical resolution, this scanner allows enlargement of 35mm film to full A3 size with Pre-Press quality output.

- ✓ 4000 x 4000dpi optical resolution
- ✓ 4.3D maximum density
- ✓ 35mm strips and slides
- ✓ Magnification to A3 size
- ✓ FireWire and USB interface

Description	Price Ex VAT
ArtixScan 4000tf FireWire Mac/Win	£697.99

MICROTEK FilmScan 2700

Affordable film scanner



Delivering high performance at a very affordable price, the FilmScan 2700 is the perfect solution scanning of 35mm positive and negative film. Once scanned, images can be saved, printed, shared, enhanced and published using Adobe Photoshop Elements 2 (included).

- ✓ Affordable 35mm film scanner
- ✓ 2700dpi optical resolution
- ✓ A4 output from 35mm film
- ✓ True 36-bit sensor
- ✓ USB with fast scan speeds

Description	Price Ex VAT
FilmScan 2700 USB Mac/Win	£153.99

MICROTEK FilmScan 3600

Professional-quality 35mm scanner



The FilmScan 3600 is a professional-quality 35mm scanner capable of scanning positive and negative strips, slides and up to 40 exposures in a single film roll.

- ✓ 3600 x 3600dpi optical resolution
- ✓ 3.6D maximum density
- ✓ Auto-focussing
- ✓ Supports 35mm slides and roll film
- ✓ USB and FireWire interface
- ✓ Photoshop Elements (PC/Mac)

Description	Price Ex VAT
FilmScan 3600 USB/FW Mac/Win	£340.99

FUJIFILM FinePix S2 Pro

The ultimate professional SLR solution



Does not include lens

- ✓ 6.17 million pixels
- ✓ 23.0 x 15.5mm Super CCD
- ✓ SmartMedia and CompactFlash media
- ✓ 1.8-inch, low-temperature TFT screen
- ✓ Compatible with all AF-D type, AF-G type and AF-S type Nikkor lenses
- ✓ High-speed shooting at 2 frames/second
- ✓ 18 custom settings
- ✓ New, hard-wearing body design
- ✓ Dual IEEE1394 FireWire and USB interface for image transfer and computer-controlled shooting
- ✓ Cross-ranged, five area Autofocus System ensures great results every time

Description	Prices Ex VAT
FinePix S2 Pro SLR Camera	£1,149
FinePix S2 Pro SLR Camera + Pro Battery Kit	£1,302

FUJIFILM S7000

The beauty is in the detail



Building on the success and with all the features of the FinePix S602 Zoom – including full manual control and 6x optical zoom – the FinePix S7000 Zoom's Super CCD HR sensor produces an exceptional 6 million effective pixel (12 million recorded pixel) performance.

- ✓ Compact, SLR-style body shape
- ✓ Fourth Generation Super CCD HR sensor with 6.3 million effective pixels, delivering 12 million recorded pixels
- ✓ 230,000 electronic viewfinder pixels, for accurate image viewing
- ✓ RAW file format

- ✓ Super EBC 6x optical Super EBC Fujinon zoom lens equivalent to 35-210mm on a 35mm camera
- ✓ Manual zoom ring control
- ✓ Dual card format: xD-Picture Card™ and Microdrive™, for added flexibility
- ✓ Full manual control
- ✓ USB 2.0 socket, allowing rapid transfer of images from camera to PC
- ✓ VGA movie recording (30 fps) with sound, for ultra-smooth movie recording
- ✓ High sensitivity settings (up to ISO 800) to allow photography in a wide range of situations, including low light without flash
- ✓ Manual (threaded) cable release socket

Description	Prices Ex VAT
FinePix S7000 Camera	£595.99

FUJIFILM S5000

An incredibly compact and lightweight camera



exactly as they were recorded, using the camera's RAW mode.

- ✓ Fujinon 10x optical zoom lens equivalent to 37-370mm on a 35mm camera
- ✓ Compact and stylish SLR-style body design
- ✓ 4G Super CCD HR sensor with 3.1 million effective pixels (delivering 6 million recorded pixels)
- ✓ Multiple exposure modes including aperture and shutter priority AE and full manual
- ✓ CCD-RAW format enabling unprocessed file saving
- ✓ High sensitivity settings (up to ISO 800)
- ✓ xD-Picture Card Compatible

Description	Prices Ex VAT
FinePix S5000 Zoom	£382.99

FUJIFILM F700 Zoom

A step ahead of conventional digital cameras



The first digital camera to incorporate Fujifilm's innovative Fourth Generation Super CCD SR technology. Set to be a hot topic amongst enthusiasts, this new sensor technology enables the user to capture highlight and shadow detail missed by conventional digital cameras, resulting in images of stunning quality. Fujifilm has dubbed this advance 'High Fidelity Photography', a reference to the sensor's extraordinarily faithful rendition of detail.

- ✓ Fujifilm Super CCD SR with 3.1 million S-Pixels and 3.1 million R-Pixels (6.2 million photodiodes), delivering 6.03 million recorded pixels

- ✓ Newly-designed, ultra-sharp Super EBC Fujinon 3x zoom lens
- ✓ Ultra-fast start-up (1.2 seconds)
- ✓ Improved autofocus performance
- ✓ High quality VGA motion capture at 30 frames per second with sound – matching camcorders for motion picture smoothness
- ✓ RAW Mode – enabling unprocessed file saving
- ✓ High sensitivity settings (up to ISO 800, ISO 1600), with lower noise
- ✓ xD-Picture Card – high storage capacity at low power charge
- ✓ USB PictureCradle included as standard, for image download and battery recharge
- ✓ No nonsense, easy to use interface enabling various manual control settings

Description	Prices Ex VAT
FinePix F700 Zoom with xD card and cradle	£451.99

FUJIFILM FinePix M603 Zoom

3G Super CCD for excellent image quality and exceptional movies



The key to both the remarkable image quality of the FinePix M603 Zoom, and its superb movie recording abilities, is the 3rd Generation Super CCD sensor.

- ✓ 3rd Generation Super CCD sensor with 3.1 million effective pixels (6 million+ recorded pixels)
- ✓ xD Card & CompactFlash compatible
- ✓ High performance Super EBC Fujinon 38-76mm 2x optical zoom lens
- ✓ Movie mode offering full TV screen video (VGA, 640 x 480 pixels) at 30 frames per second, with sound

Description	Price Ex VAT
FinePix M603 Zoom	£259.99

FUJIFILM FinePix F410

A true all-rounder



With this perfectly formed camera, Fujifilm has taken the petite size and smart design of its predecessor, and added Super CCD HR technology to create a camera that can achieve higher resolution images.

- ✓ 3rd Generation Super CCD sensor with 3.1 million effective pixels (6 million+ recorded pixels)
- ✓ Special 'Photo Mode' button for fast and simple access to menus
- ✓ Fujinon 3x optical zoom lens equivalent to 38-114mm
- ✓ QVGA movie capture at 10 frames per second (fps) with sound

Description	Price Ex VAT
FinePix F410	£314.99

FUJIFILM 7 in 1 reader

All format card reader



The Fujifilm Digital Card Reader 7 in 1 DCR-71 is a compact reader/writer that will accept all current media formats: SmartMedia, CompactFlash, Microdrive, xD-Picture Card, Secure Digital, Memory Stick & MultiMedia card.

It is compatible with USB version 1.1. The adapter can create 4 drives on your computer allowing transfer of files from one format to another with out saving them on your computer first.

- ✓ OS X and Windows XP compatible

Description	Price Ex VAT
Fujifilm 7 in 1 reader	£29.99

FUJIFILM**xD Card Pen Drive**
Functional and portable

Fujifilm xD Picture Card USB Pen Drive ultra compact pocket sized USB card reader/Pen Drive exclusive for the xD-Picture Card, which can be inserted directly into a USB slot and files or images can be transferred to any compute. battery.

The DPD-UD1 Pen Drive can be upgraded with bigger xD Picture cards.

- ✓ OS X and Windows XP compatible

Description	Prices Ex VAT
Fujifilm xD card pen drive	£24.99

OLYMPUS C-5050 Zoom

Professional camera in the compact zoom class



Professional features abound in the five megapixel C-5050 ZOOM. The ergonomically designed camera incorporates an ultra-bright f1.8-f2.6, 3x optical zoom lens system. Its many manual options give you the freedom to create the images you want.

The tilting LCD monitor helps frame scenes when shooting from difficult angles, such as from the floor or above the head. A range of automatic modes are also included, enabling you to react quickly and capture that moment.

Furthermore the C-5050 ZOOM is compatible with the new digital image storage standard xD-Picture Card, as well as SmartMedia, Compact Flash and Microdrive.

With the C-5050 ZOOM, Olympus introduces a new professional standard within the compact digital camera class. As well as an exceptionally bright, high-quality 3x zoom optical system and 5 megapixel resolution, this model includes a full complement of many other high-end features.

- ✓ 5.0 million pixels for image processing
- ✓ 5,260,000 pixel 1/1.8 inch CCD
- ✓ 3x optical zoom, equivalent to 35 - 105mm
- ✓ 3.3x digital zoom
- ✓ Ultra-bright zoom lens f1.8 - f2.6
- ✓ Tilting 1.8" LCD display
- ✓ ESP (Electro Selective Pattern) light metering
- ✓ Adjustable aperture and shutter speed

Description	Prices Ex VAT
Olympus C-5050 Zoom	£425.99

OLYMPUS C5000 Zoom

Explore your creative potential



If you've had enough of your artistic ideas being limited by your old camera, take a look at the five megapixel C-5000 ZOOM. Whether you want to capture the textures and tones in city scenes, moody portraits or the setting sun dancing over a bay, this camera always rises to the challenge.

Full manual control is complemented by precision metering systems and automatic options for those times when you have to shoot fast to get the shot. And if you need more light, that can easily be arranged. This compact model features a hot shoe connection for an external flash.

- ✓ Creative features and a photographic design at a reasonable price

- ✓ Firm grip and intuitive layout of buttons and controls
- ✓ 1.8" LCD with 134,000 pixels
- ✓ 5.0 million pixels for image processing
- ✓ 3x optical zoom f2.8/4.8 (equiv. 38 - 114mm on 35mm camera) plus 4x digital zoom
- ✓ Program, Shutter Priority, Aperture Priority and Full Manual modes
- ✓ 6 scene programs (portrait, self-portrait, sports, night scene, landscape, landscape portrait)
- ✓ Hot shoe for external flash connection
- ✓ Built-in flash with multiple modes including 1st and 2nd curtain slow synchronisation
- ✓ Super Macro mode for shots as close as 4cm
- ✓ Shutter speed ranges from 1/1,000 to 16 seconds

Description	Price Ex VAT
Olympus C-5000 Zoom	£339.99

OLYMPUS mju 300

Ability and attraction in a compact package



With the mju 300 Digital you get the latest technological innovations in a sleek, weatherproof, full-metal body for great performance and a stylish design.

A precision 3x optical zoom lens and high-quality CCD with 3.2 million pixels ensure clarity and sharpness. Whether shooting in full-auto mode to capture the scene quickly or using one of the camera's special scene modes, recording panorama shots or short movies, this model matches your lifestyle while guaranteeing first-class results without a fuss.

The mju 300 Digital uses the xD-Picture Card for image storage. A host of other functions such as macro and panorama mode, 2 in 1 shooting, recording of short movie sequences and the built-in-flash with red-

eye reduction further heighten shooting enjoyment and extend the possibilities.

- ✓ Ultracompact Design
- ✓ Weather-proof metal body - Equivalent to IEC standard publication 529 IPX4
- ✓ 3.2 million pixels for image processing
- ✓ 3x optical zoom equivalent to 35 - 105mm
- ✓ 4x digital zoom (5x at VGA).
- ✓ Bright zoom lens F3.1-5.2
- ✓ 5 scene programs (for self-portrait, night mode, landscapes, portrait and portrait plus landscape).
- ✓ Movie recording function (QuickTime Motion JPEG)
- ✓ Video out connector and USB AutoConnect

Description	Price Ex VAT
mju 300 Digital Camera	£255.99

OLYMPUS mju 400

A real attention grabber



Get heads turning with the mju 400. Fashions come and go but real style is timeless. For over ten years, the mju has been a synonym for stylish and elegant analogue cameras. Now it enters the digital age with the mju 400 Digital. The flowing, elegant lines and compact, metal body of this model makes sure you are the centre of attraction, no matter whether you're at a chic event or low-key get-together.

The versatile 3x zoom lens (equivalent to 35 - 105mm on a 35mm camera) gets you closer, be it to the flirtatious smile coming from across the room or to your friends' activities on the ski slope. Operation of the mju 400 is easy. With advanced automatic modes and scene programs, you can just enjoy shooting digital while letting the camera do the work. It shoots with up to

4 million pixels, using a small, high-precision lens constructed especially to suit each camera's CCD.

- ✓ Ultracompact Design
- ✓ Weather-proof metal body - Equivalent to IEC standard publication 529 IPX4
- ✓ 4.0 million pixels for image processing
- ✓ 3x optical zoom equivalent to 35 - 105mm
- ✓ 4x digital zoom (5x at VGA)
- ✓ Bright zoom lens F3.1-5.2
- ✓ 5 scene programs (for self-portrait, night mode, landscapes, portrait and portrait plus landscape)
- ✓ Movie recording function (QuickTime Motion JPEG)
- ✓ Video out connector and USB AutoConnect

Description	Price Ex VAT
mju 400 Digital Camera	£323.99

SMARTiSK FlashTrax

The ideal archiving tool for imaging professionals



change the image, zoom in, zoom out and scroll, or choose a slide show function - all without the need of a PC.

The LCD folds to ensure that both the screen and control buttons remain protected while in field use. Images may be viewed on the LCD screen or on any TV using the included remote control. To facilitate portability, FlashTrax also includes a rechargeable Lithium-ion battery.

A built-in MP3 player makes this device even more attractive - more than 7,000 compressed audio files can be stored and played back through the built-in speaker, headphones or external speakers. Various play modes are easily controlled from the user-friendly screen display and control pad, making music selection quick and easy.

The FlashTrax supports raw file format on selected camera models.

- ✓ 30GB, 40GB & 80GB Available
- ✓ 3.5" Colour LCD Display
- ✓ Built in MP3 player - with speaker and headphone socket
- ✓ Zoom, pan and scroll facility

- ✓ Plays AVI Movie files
- ✓ Store and view images
- ✓ Store thousands of image files and view them on the 3.5" colour display
- ✓ Download your flash memory directly on to your FlashTrax



Now Available in 40Gb & 80Gb

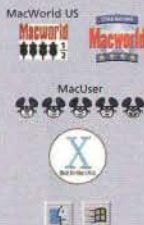
Description	Prices Ex VAT
FlashTrax Digital Multimedia 30Gb Storage Device USB 2.0	£289.99
FlashTrax Digital Multimedia 40Gb Storage Device USB 2.0	£339.99
FlashTrax Digital Multimedia 80Gb Storage Device USB 2.0	£459.99

With transfer speeds of up to 480MBps, FlashTrax can also serve as an external hard drive



Eye Candy 4000

23 prescription-strength special effects



shadows, bevels and glows with stunning effects like Chrome, Fire, Smoke and Wood. This easy-to-use toolset is consistently ranked one of the top-selling graphics plug-ins in the world.

The Eye Candy 4000 interface contains dozens of new controls and yet remains compact, clearly organised and easy to use. New mouse-over help strings have been added for all elements of the preview window, encouraging users to quickly master each filter.

If a filter has a large number of sliders, they have been organised onto tabs for ease of use. Lighting, Colour and Bevel Profile tabs are used in several filters. After much consultation with their customers, Alien Skin

Eye Candy is a collection of 23 time-saving filters that will fortify any Photoshop or Fireworks user's creativity.

Eye Candy is the only filter set on the market that combines practical effects like

Description	Prices Ex VAT
Eye Candy 4000 Mac/Win	£129.99
Eye Candy 4000 Download Mac/Win	£109.99
Eye Candy 4000 Upgrade Mac/Win	£51.99
Eye Candy 4000 Upgrade Download Mac/Win	£47.99
Eye Candy 4000 Sidegrade Mac/Win	£99.99
Eye Candy 4000 Sidegrade Download Mac/Win	£93.99



Triple Bundle

3 Fantastic Photoshop Plug-ins for one unbelievable Price



SAVE over £100 when you buy this bundle

The Alien Skin Triple Bundle consists of Eye Candy 4000, Splat! and Xenofex 2. It is an essential extra, particularly for users of Adobe Photoshop 7 and Macromedia Fireworks MX.

- ✓ 43 spectacular filters in one cost-effective bundle
- ✓ Easy plug-and-play capability for simple, straightforward installation

Description	Price Ex VAT
Triple Bundle (Xenofex 2, Eye Candy 4000, Splat!)	£199.99



Xenofex 2

14 inspirational special effects



Xenofex 2 contains 14 phenomenal effects for Photoshop, Fireworks, Paint Shop Pro, and other image editors. It simulates spectacular natural phenomena, produces striking distortions, and instantly transforms photos.

- ✓ 14 spectacular filters to save you time and energy
- ✓ Easy plug-and-play for simple, straightforward installation

Description	Prices Ex VAT
Xenofex 2.0 Mac/Win	£99.99
Xenofex 2.0 Upgrade Mac/Win	£49.99
Xenofex 2.0 Sidegrade Mac/Win	£79.99



The Melt filter has been used here to make the face of this stopwatch run



The Drip filter adds a surreal edge to this image



Create realistic flames with the Fire filter

have aimed for a more host-like appearance and functionality in the Eye Candy 4000 interface.

- ✓ Brand new user-friendly interface makes it easier to use
- ✓ Creates an enormous variety of bevel and carve shapes
- ✓ Save bevel and carve shapes to use them for quick reference later
- ✓ Chrome filter uses reflection maps to create realistic metallic effects
- ✓ Cutout filter recreates the selection as a hole in the image making it easier to see and pinpoint

✓ The Glass filter creates a layer of clear or coloured glass over your selection by simulating refraction, light filtering and light reflection.

- ✓ Colour gradient Editor gives you precision control over all your colours
- ✓ Produce multi-hued glows, halos, rainbows and more
- ✓ The preview window has been dramatically enlarged allowing you to see details more clearly, and is fully resizable
- ✓ New mouse-over help strings have been added for all elements of the preview window



SPLAT!

Powerful filter set for graphics programs



Splat! is a powerful, new filter set for Adobe Photoshop and other graphics programmes.

- ✓ Adds realistic frames and mattes to any photo or other rectangle for greater versatility
- ✓ Comprehensive range of 100 high-resolution surface textures that can easily be applied to any image

Description	Prices Ex VAT
Splat! Mac/Win	£79.99
Splat! Sidegrade (from any other Alien Skin Product) Mac/Win	£59.99



Image Doctor

An all new set of powerful image-correction filters



Image Doctor is an all-new set of powerful image-correction filters for Photoshop, Fireworks, Paint Shop Pro, and other image editors.

- ✓ Smart Fill replaces large objects and defects for seamless correction
- ✓ Compatible with all the top image editors for all your image-correction needs

Description	Prices Ex VAT
Image Doctor Mac/Win	£84.99
Image Doctor Sidegrade (from any other Alien Skin Product) Mac/Win	£59.99

COREL PrintHouse 6

Create fun and easy projects for print and Web!



Corel Print House 6 puts a complete home-publishing package at your fingertips and lets you take your creativity to new levels. You can design scrapbooks, greeting cards, calendars, banners, paper toys, stationary, T-shirts, party theme sets – and lots more.

Retouch and edit digital photos. Publish projects on the Web. Email them to friends and family. With an extensive selection of drawing tools; sample projects and graphics; and a host of other simple and intuitive features, Print House 6 makes home publishing a joy.

- ✓ Create a near-endless array of personalised print projects, from calendars and banners to paper toys and party invitations

- ✓ Get started quickly with ready-made sample projects and templates
- ✓ Draw from thousands of customisable clipart images, photos, illustrations, 3-D projects, and animated images
- ✓ Retouch a variety of images, including photos from your digital camera or scanner, and clipart images
- ✓ Create eye-catching original artwork and designs from scratch
- ✓ Make every picture perfect – adjusting brightness, sharpening focus, and removing red eye, scratches and speckles
- ✓ Dramatically enhance any digital image: remove objects from a photo; add text or clipart; replace or change colours; add decorative frames, borders or photo cutouts; and apply special effects

Description	Price Ex VAT
Corel PrintHouse 6 Win	£24.99

COREL Photobook

Easily retouch, organise and share your photos



Corel Photobook is your perfect digital-camera companion. Fun, fast and easy to use, Photobook lets you retouch, organise and share your digital photos – all with the click of a mouse. Enhance and correct digital pictures to make each shot your best shot.

Create personalised photo albums. Print photos, publish them to the Web, create slide shows or Email photos to friends and family. Corel Photobook – perfect digital photos made easy! Correct common problems like red-eye, contrast and white balancing with the click of a mouse, plus change hue and saturation, adjust brightness and make other changes to a single photo or an entire group of photos at one time.

- ✓ Correct common problems such as red-eye, and add stunning borders and effects, all with easy-to-use wizards
- ✓ Use images from either scanners or digital cameras
- ✓ Organise, store, browse and catalog your pictures quickly and easily
- ✓ Drag and drop photos to create personalised photo albums
- ✓ Share photos with friends and family by Email or online
- ✓ Create personal slide shows, screen savers or wallpaper for your computer
- ✓ Inexpensive printing – save money by printing multiple images on a single sheet of paper
- ✓ Easy import options – import images directly from your digital camera or scanner, including TIFF, JPEG, PSD and FlashPix formats

Description	Price Ex VAT
Corel PhotoBook Win	£24.99

Adobe Photoshop CS

The professional standard in desktop digital imaging



Get superior results faster with industry-standard Adobe Photoshop CS software and its integrated Web production application, Adobe ImageReady CS software.

Graphic and Web designers, photographers, and video professionals can take advantage of indispensable features that include improved file management, new design possibilities, a more intuitive way to create for the Web, and support for 16-bit images, digital camera raw data, and non-square pixels. Now you can create the highest-quality images more efficiently than ever before.



CONSISTENT COLOUR
Instantly apply the colour scheme from one image to another using the Match Colour command

BALANCED EXPOSURE
Make advanced contrast adjustments while maintaining the overall balance of your photo with the new Shadow/Highlight controls



DYNAMIC LEVELS
Track every change to your image in the new Histogram palette

Features for Photographers

- ✓ Create original images or modify photos using a full assortment of painting, drawing, and retouching tools
- ✓ Improve the colour, contrast and dynamic range of any image with a comprehensive set of professional colour-correction tools.
- ✓ Quickly preview, tag and sort images; search and edit metadata and keywords
- ✓ Perform more precise editing and retouching with expanded support for 16-bit images in core features, including layers, brushes, text, shapes and more
- ✓ Effortlessly remove dust, scratches, blemishes, wrinkles and other flaws with the Healing Brush

Features for Graphic Designers

- ✓ Achieve sophisticated results by compositing images, text, and effects on hundreds of layers that you control by grouping into sets, colour coding and locking
- ✓ Create design variations for clients more efficiently by saving different combinations of layers within the same file as Layer Comps

- ✓ Create eye-catching typography by placing text on paths or within shapes. Edit the text at any time, even in Adobe Illustrator software
- ✓ Customise, save and print a summary of your ideal set of keyboard shortcuts, so the functions you use most are always at your fingertips
- ✓ Easily experiment and achieve amazing results by accessing more than 95 special effects filters. Preview and apply more than one filter at a time with the new Filter Gallery

Features for Web Designers

- ✓ Create and modify Web designs faster with multiple object selection, object grouping and smart guides
- ✓ Enjoy quicker, more seamless integration between Photoshop and ImageReady, plus automated file saving and common commands, tools and shortcuts
- ✓ Slice complex, layered images and apply appropriate format and compression settings to each area before exporting as an HTML table
- ✓ Easily import database and spreadsheet information to automate the production of Web graphics

- ✓ Use ImageReady CS to create Macromedia Flash (SWF) animations, complete with vector artwork and variable text

Features for Video Producers

- ✓ Create and work with different aspect ratios to accommodate non-square pixels without distortion
- ✓ Perform more precise matte painting, 3D rendering, and other advanced film compositing with expanded support for 16-bit images in core features, including layers, brushes and more
- ✓ Easily design using video-specific presets that show action-safe and title-safe areas of the screen
- ✓ Quickly integrate layered Photoshop artwork with a variety of video editing and compositing systems using the built-in Export Layers to Files command
- ✓ Automate production tasks with built-in or customised scripts and the Actions palette which lets you record editing steps to quickly process batches of files

Description	Prices Ex VAT
Photoshop CS Mac/Win	£509.99
Photoshop CS Upgrade Mac/Win	£125.99

Complementary Products

- ScanMaker 9800XL.....p.6**
Capture hi-res images with this cutting-edge A3 scanner
- Eye Candy 4000p.9**
Create astounding effects
- KnockOut 2.....p.13**
Mask the impossible with this Corel tool
- Intuos2p.13**
Take advantage of Photoshop's support for full pressure sensitivity
- ToonBoom.....p.31**
Create 2D animations for the Web
- CINEMA 4Dp.35**
Multipass rendering lets you adjust your images in Photoshop afterwards
- Stylus PRO 4000p.44**
Get the best quality photographic prints with 200 years lightfastness
- Painter.....p.48**
Painter integrates well with Photoshop to give you total control

COREL KPT Collection

Kai's Power Tools plug-in filters 5, 6 & 7



The new Corel KPT Collection combines a selection of all the powerful Kai's Power Tools plug-in filters of KPT 5, KPT 6 and KPT effects to give professional designers an unprecedented set of creative tools. A natural addition to Adobe Photoshop, it dramatically extends the boundaries of image editing, and makes a significant impact on your creativity and productivity.

- ✓ KPT Fluid – treat your entire image as a fluid to create and animate a variety of distortions
- ✓ KPT FraxFlame II – create stunning fractals such as crystal clouds, with improved rendering

- ✓ KPT Gel – use realistic 3D paint tools to synthesise photo-realistic materials
- ✓ KPT Goo – smear, smudge, twirl, pinch or finger-paint an image
- ✓ KPT Ink Dropper – add drops of liquid to a surface
- ✓ KPT Lightning – customise and create realistic lightning effects by controlling every aspect of the bolt
- ✓ KPT Materialiser – create dynamic surface textures using bump maps and advanced controls
- ✓ KPT Scatter – import a particle or grid of particles and scatter them over your original image to create complex patterns and textures. Control how the particles fall – in a grid, in spirals or at random
- ✓ KPT ShapeShifter – create limitless shapes and objects with refracting glass edges

Description	Price Ex VAT
KPT Collection	£63.99

Experience a new level of realism by controlling every aspect of a lightning bolt, including its colour, the number of forks and its path



KPT Fluid handles an image as if it were floating on a pool of liquid. You can quickly add liquid distortion effects to images or create short animations

Extensis. Mask Pro 3

Professional precision masking and selection tools



- ✓ A range of performance masking tools makes masking challenges go away
- ✓ Innovative colour matching technology makes complex masking simple
- ✓ Magic Pen automatically detects edges to make creating detailed and difficult edges a snap
- ✓ Worry-free masking at your fingertips with ultimate undo capability
- ✓ Remove backgrounds that create halos with a single click using IntelliBrush and IntelliWand
- ✓ Clipping Path Generation provides total control
- ✓ Colour Decontamination greatly improves the masking of semi-transparent edges like hair or glass
- ✓ Mask Pro has been extensively updated to take advantage of Mac OS X improvements under Photoshop 7.0.1, including mouse wheel support

Ever wish it were easy to remove certain aspects of your images? Remove a background for example? For several years now, Photoshop users everywhere have turned to Mask Pro as the right tool to get the job done.

But Mask Pro isn't just one tool, it's a complete collection of masking tools perfect for every masking challenge.

Whether you need to mask images by removing specific colours or tracing edges, Mask Pro has the tool you need.



Colour Decontamination extracts the background colour from partially visible pixels, removing the halo that can be left after masking

Description	Prices Ex VAT
Mask Pro 3 Mac	£149.99
Mask Pro 3 Download Mac	£139.99
Mask Pro 3 Upgrade Mac	£69.99
Mask Pro 3 Upgrade Download Mac	£69.99

Extensis. PhotoFrame 2.5

Interactively design stunning border & edge effects



- ✓ Design your own custom frames and apply seamlessly to Adobe Photoshop images
- ✓ Distort your frames for further creative possibilities
- ✓ Real-time previews and interactive controls let you design as you go
- ✓ Combine and customise frames for endless creativity
- ✓ Includes over a thousand frames to create countless border possibilities
- ✓ Comprehensive effects include drop shadows, glows, bevels, textures, blur, noise, opacity, blend modes and more
- ✓ Dynamic Graphics' eFrame borders offer the perfect finishing solutions to your electronic design project
- ✓ Added Support for Adobe Photoshop 7, Adobe Photoshop Elements 2, and Mac OS X

Every good photo deserves a frame. An interesting border or stunning frame around an image can accent the beauty of the photo itself, but making frames in Photoshop has always been a tricky process limited to advanced Photoshop users. Fortunately, an easier way has arrived.

Extensis PhotoFrame unleashes your creativity to design unlimited high-quality image frames and borders. Combine and customise any of the included 1000+ natural and digital frames or create your own original frame. Special effect, such as frame distortion, shadows, glows, bevels, textures, blur, opacity and more, you can really go beyond the ordinary with PhotoFrame.

Description	Prices Ex VAT
PhotoFrame 2.5 Mac/Win	£149.99
PhotoFrame 2.5 Upgrade Mac/Win	£39.99

Extensis. pxl SmartScale

One image - at any size you like



Powered by the most advanced scaling technology available, pxl SmartScale offers an easy, intuitive way to scale images up to 1600% with no discernable loss in printed quality. SmartScale's intuitive, easy to use interface allows users to preview their results on the fly, crop images, and refine image quality by controlling the overall sharpness, edge contrast and edge detail.

SmartScale allows you to scale an image from a file on disk without ever actually opening the file in Photoshop, saving valuable processing time. Because SmartScale is a true Photoshop plug-in, your workflow doesn't skip a beat. Seamlessly

access all of SmartScale's powerful scaling features directly from your Photoshop application. SmartScale is also intuitive and easy to use. The powerful scaling technology is coupled with familiar floating/dockable palettes, traditional crop, magnification, and hand tools, along with a full-screen preview, and easy image navigation.

- ✓ Visually lossless resizing of images up to 1600% within Photoshop
- ✓ Powerful and intuitive re-sampling and resizing tools
- ✓ Ability to export from within the SmartScale plug-in
- ✓ Easy-to-use, intuitive interface
- ✓ Customisable presets for scaling options
- ✓ Ability to password-protect files
- ✓ True Adobe Photoshop Plug-In Technology

Description	Prices Ex VAT
pxl SmartScale 1.0 Mac/Win	£149.99

Extensis. Portfolio 6.1

Professional digital image database management



seamless integration with your existing file system, so keeping track of projects is easier.

- ✓ Now catalogues RAN Format files
- ✓ Portfolio takes the grunt work out of organising files
- ✓ Provides instant visual access to digital photos, scans and other media files
- ✓ Build Web pages based on your catalogue contents with a few clicks
- ✓ Collect and publish copies, and catalogue files automatically
- ✓ Fully expandable so it grows as your workgroup increases

For individuals and workgroups alike, Portfolio removes the chaos by taking the grunt work out of organising files and by providing instant visual access to digital photos, scans and other media files. Portfolio's new FolderSync feature provides

Description	Prices Ex VAT
Portfolio 6.1 Mac	£149.99
Portfolio 6.1 Download Mac	£149.99
Portfolio 6.1 Upgrade Mac	£79.99
Portfolio 6.1 Upgrade Download Mac	£66.99
Portfolio 6.02 Win	£149.99
Portfolio 6.0 Upgrade Win	£74.99
Portfolio 6.0 Server Mac/Win	£1,799
Portfolio SQL Server (add-on to Server) Mac/Win	£5,499

Extensis. Intellihance Pro 4.1

Dynamic image enhancement and colour correction



Extensis Intellihance Pro can take a whole folder of images, analyse each image individually and then correct whatever it finds is wrong.

- ✓ Analyses and corrects each image individually for perfect results
- ✓ Batch processing capabilities fix multiple images with just one click

Description	Prices Ex VAT
Intellihance Pro 4.1 Mac/Win	£149.99
Intellihance Pro 4.1 Download Mac/Win	£127.99
Intellihance Pro 4.1 Upgrade Mac/Win	£79.99
Intellihance Pro 4.1 Upgrade Download Mac/Win	£69.99

Extensis. Photo Imaging Suite

5 products in 1 box!



SAVE over £450

The Extensis Photo Imaging Suite is a collection of image and workflow-enhancement tools for photographers.

- ✓ Portfolio: catalogue digital images
- ✓ pxl SmartScale: scale images by 1600%
- ✓ Mask Pro: masking and selection tools
- ✓ PhotoFrame: stunning border effects
- ✓ Intellihance: quick colour correction

Description	Prices Ex VAT
Photo Imaging Suite	£289.99

WACOM Graphire3

Bring your ideas to life with the Graphire3 family of tablets



Graphire3 is here! The brand new pen tablet from WACOM designed for all your digital photo, digital video and graphic needs. It gives you the creative tools to shape the world as you wish. With Graphire3 you can seamlessly edit and manage your photos and videos, create DVDs and draw faster and more naturally than ever before.

Graphire3 is a complete solution for the digital photo and video markets, and brings the tools of the professionals to the enthusiast. Graphire3 builds on the success of its predecessor Graphire2, using the same technical attributes of the tablet that has sold more than 200,000 units in the UK alone over the past two years.



The new Graphire3 family has 3 different products, each one designed to work within its own digital space, allowing you to get the most from your ideas, whatever their form. It is better value than ever, now with even more fantastic software included and with dramatic hardware improvements like twice the working resolution of the Graphire2. Graphire3 is a complete creative digital solution. It's also now even more ergonomic and stylish than before with its sleek lines and new sapphire blue design.

Graphire3 is smarter, sleeker and better packaged than any other tablet before, combining dramatic new looks with the pen technology that has made WACOM the global market leader in its field. WACOM's

patented wireless and battery-free pen and mouse means that pressure sensitive working and absolute positioning gives the user the ability to navigate images and draw effortlessly; make selections and draw around objects with ease; seamlessly add effects, apply filters, and select pixels at the highest resolutions.

New features include:

- ✓ A sapphire blue metallic colour scheme with sleek lines
- ✓ An integrated pen compartment to keep the pen safe and close at hand
- ✓ A transparent hard photo frame to customise your tablet and trace photos and images directly into your PC or Mac
- ✓ Improved driver interface with tips and tricks tutorial to get the most from your tablet
- ✓ 512 pressure sensitivity levels
- ✓ The tablet supports high precision with 2000 dpi resolution
- ✓ Completely cordless and battery-less
- ✓ Now available in A6 and A5 sizes!
- ✓ Create and adjust images in ways impossible with a mouse
- ✓ USB for plug-and-play compatibility
- ✓ Discover new aspects of your favourite graphic design packages
- ✓ The Graphire3 Pen features a pressure-sensitive pen tip
- ✓ Users can program the upper or lower button of the side switch
- ✓ A perfect solution for anybody who wants to accurately trace photos
- ✓ The mouse is also cordless, offering completely unrestrained freedom

Graphire3 Classic

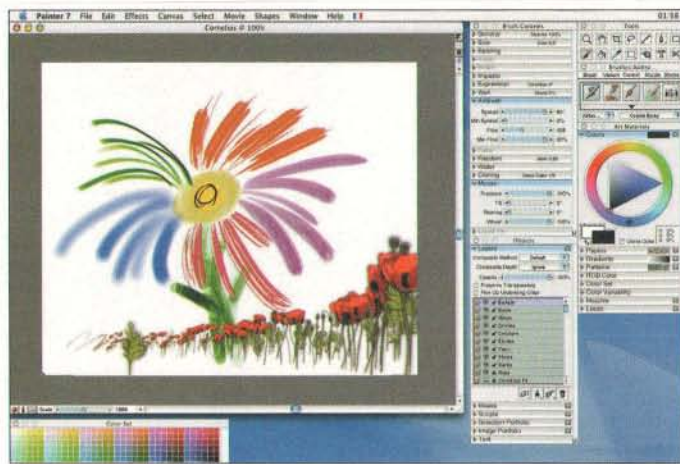
Created for the digital enthusiast who already has all the software they need, experience the creative power of Graphire3.

Hardware:

- ✓ Pen, Tablet (active area A6) and Mouse

Software:

- ✓ procreate Painter Classic by Corel



This flower was drawn in Painter Classic using the pressure sensitive brush tools

Graphire3 Studio

The complete set of home studio tools for the prosumer and digital enthusiast, a comprehensive suite of digital video and photo software utilising all the power of the Graphire3. For the digital camera or camcorder owner who wants to do more with their images and video, this is the complete array of imaging hardware and software at a compelling price.

Hardware:

- ✓ Pen, tablet (active area A6)

Software:

- ✓ Adobe Photoshop Elements 2.0
- ✓ Pinnacle Studio 8 SE (PC only)
- ✓ ACDSee
- ✓ Nik penPalette LE

Graphire3 Studio XL

Perhaps the most exciting addition to the Graphire3 family, for the first time the

Graphire is available as an A5 tablet with the complete set of home studio tools for the prosumer and digital enthusiast. Now the enthusiast can work with a bigger tablet for increased space and room for creativity. The Studio also includes a WACOM mouse for the complete desktop solution.

Hardware:

- ✓ Pen, Tablet (active area A5) and Mouse

Software:

- ✓ Adobe Photoshop Elements 2.0
- ✓ Pinnacle Studio 8 SE (PC only)
- ✓ ACDSee
- ✓ Nik penPalette LE



Description	Prices Ex VAT
Graphire3 Classic : A6 Tablet, Pen & Mouse with Corel Painter Classic	£59.99
Graphire3 Studio : A6 Tablet, Pen with Adobe Photoshop Elements 2.0, Pinnacle Studio 8 SE (PC only), ACDSee, Nik penPalette LE	£85.99
Graphire3 Studio XL: A5 Tablet, Pen & Mouse with Adobe Photoshop Elements 2.0, Pinnacle Studio 8 SE (PC only), ACDSee, Nik penPalette LE	£153.99

Adobe Photoshop Elements 2

The perfect combination of power and simplicity

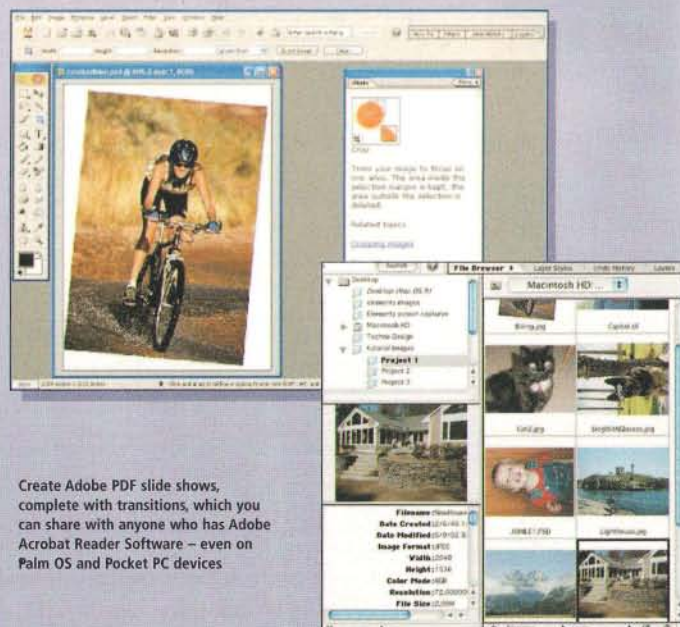


Adobe Photoshop Elements 2 is an affordable, easy-to-use digital imaging program, designed for amateur photographers and photo hobbyists who want to create high-quality images for print, Email and the Web.

Powerful, yet easy to use tools and features allow users to touch up and enhance photos from digital cameras or scanners; create original images with the new paintbrushes, textures and special effects; merge photos into panoramas; and do a wide range of other image editing tasks. The innovative Help system offers extensive guidance

throughout the interface, without forcing users to follow pre-programmed routines. Building on the Adobe tradition for excellence in digital imaging, Photoshop Elements gives users the tools to correct common photography problems and creatively edit their photos to produce high-quality results without the complexity of professional-level software. Photoshop Elements is the natural complement to digital cameras and scanners.

- ✓ Create a Web photo gallery easily for quick reference
- ✓ Automatically assemble multiple photos to create panoramas
- ✓ Organise photos in the File Browser so you can sort, rotate and rename images
- ✓ Smart error messages offer clear explanations of errors
- ✓ Supports Windows XP and Mac OS X for all-round compatibility



Create Adobe PDF slide shows, complete with transitions, which you can share with anyone who has Adobe Acrobat Reader Software – even on Palm OS and Pocket PC devices

Description	Price Ex VAT
Photoshop Elements 2.0 Mac/Win	£65.99

WACOM Intuos2

The professional graphics tablet range

The Intuos2 Graphics Tablet range is suitable for all creative professionals working in graphic design, Web design, 3D design (including CAD/CAM) audio/video post production, animation prepress and print.

If you live from your creative ideas, Intuos2 is the graphic tablet system you need. It does much more than any mouse. With Photoshop, Illustrator, Painter and other top software, Intuos2 gives you access to numerous tools and effects like pressure and tilt-sensitive pens, brushes, erasers and more. All of which give you precise, fingertip control of tool size, dynamics and positioning. The result? Faster, more precise work. It is the perfect way to express your creativity.

WACOM Intuos2 Platinum range



With exactly the same technical specifications as the award-winning Intuos2 graphics tablet system, the Platinum Editions are ideal for digital imaging. They complement the modern design of Apple's Titanium PowerBook and many PCs on the market today. They are available now in A5 and A4 regular sizes.

Why do you need a WACOM tablet?
Increase your productivity! You'll finish your projects quicker with a WACOM Intuos2 tablet. Working with Intuos2 saves you money because the pen lets you work faster and more intuitively than a conventional mouse. Eighty percent of WACOM users work faster with this pen - this has been proved by extensive research among thousands of current WACOM users.

If pixels are your everyday work, you need a WACOM Intuos2! Only a pen lets you really point and draw naturally. Only a pen is sensitive to pressure: by pressing harder on the WACOM pen you apply more digital ink or draw a thicker line on your screen - and you can't do that with a conventional mouse.

Use the possibilities of Adobe Photoshop 7 to the full with a WACOM tablet. More power, more creativity, more productivity, more flexibility, more natural. Only a pen lets you really do 'Photo-shopping'. There are many packages for which a WACOM Intuos2 tablet is essential, but Adobe Photoshop is the best example. In Photoshop 7 there are 20 standard tools, which can be turned into pressure sensitive tools if you connect a WACOM tablet to your computer. Check the table on the left for a complete listing.

Adobe Photoshop 7 has a brand-new 'brush engine'. The only way to get the best results from this fantastic new creative tool is with a WACOM Intuos2 tablet. A WACOM Intuos2 tablet adds a new dimension to drawing in Photoshop, for the first time it's now also possible to tilt the pen, opening up some spectacular new effects.



The "Midnight" colour scheme and the improved finishes give the tablets and the tools a crisp new look and feel.

Nik penPalette Included

Complementary Products

Photoshop.....p.10

Create your images in a realistic, natural style

After Effects 6.....p.17

Create mind boggling effects with Adobe and WACOM

Sketchupp.34

Sketch on the screen with a real pen!

CINEMA 4Dp.35

Streamline your 3D workflow with Intuos2

QuarkXPress 6.....p.40

Speed up your layout time with an Intuos2 based workflow

FreeHand MXp.47

Draw like you would on paper, in Macromedia's illustration program

Painter.....p.48

Take advantage of the pressure sensitivity to paint realistically

Intuos2 features:

- ✓ Create natural-looking pen, brush and eraser strokes with simplicity
- ✓ 1024 pressure-sensitivity levels
- ✓ Tilt sensitivity for enhanced creativity
- ✓ Completely cordless and battery-less
- ✓ USB and serial versions available
- ✓ Removable menu strip
- ✓ Customise pens with the superb Tool ID
- ✓ Divide the tablet and create two-in-one
- ✓ Use two input devices simultaneously
- ✓ Active area of tablet represents entire monitor screen



Description	Prices Ex VAT
Intuos2 2D Mouse	£24.99
Intuos2 Lens Cursor	£59.99
Intuos2 4D Mouse	£69.99
Intuos2 Inking Pen	£59.99
Intuos2 Stroke Pen	£59.99



Description	Prices Ex VAT
Intuos2 Classic Pen	£49.99
Intuos2 Airbrush	£89.99
Intuos2 Designer Pen	£79.99
Intuos2 Grip Pen	£59.99

Description	Prices Ex VAT
Intuos2 A6 Tablet + Pen and 2D Mouse Serial Win	£139.99
Intuos2 A6 Tablet + Pen and 2D Mouse USB Mac/Win	£139.99
Intuos2 A5 Tablet + Pen and 2D Mouse Serial Win	£235.99
Intuos2 A5 Tablet + Pen and 2D Mouse USB Mac/Win	£235.99
Intuos2 A4 Regular Tablet + Pen and 4D Mouse Serial Win	£365.99
Intuos2 A4 Regular Tablet + Pen and 4D Mouse USB Mac/Win	£365.99
Intuos2 A4 Oversize Tablet CAD + Lens Cursor Serial Win	£369.99
Intuos2 A4 Oversize Tablet DTP/Graphics + Pen and 4D Mouse Serial Win	£405.99
Intuos2 A4 Oversize Tablet CAD + Lens Cursor USB Mac/Win	£369.99
Intuos2 A4 Oversize Tablet DTP/Graphics + Pen and 4D Mouse USB Mac/Win	£405.99
Intuos2 A3 Tablet CAD + Lens Cursor Serial Win	£539.99
Intuos2 A3 Tablet DTP/Graphics + Pen and 4D Mouse Serial Win	£599.99
Intuos2 A3 Tablet CAD + Lens Cursor USB Mac/Win	£539.99
Intuos2 A3 Tablet DTP/Graphics + Pen and 4D Mouse USB Mac/Win	£599.99
Intuos2 A5 Platinum Tablet + Pen and 2D Mouse USB Mac/Win	£255.99
Intuos2 A4 Platinum Regular Tablet + Pen and 4D Mouse Serial Win	£389.99

COREL KnockOut 2

Complex masking with absolute precision



hair, smoke, water, glass and shadows, in a fraction of the time it would take to mask them manually in Photoshop.

- ✓ Previously impossible-to-mask soft edges can now be preserved with KnockOut
- ✓ Finally, a masking tool that conquers transparencies for perfect results
- ✓ Capture every strand of hair to create a truly realistic image
- ✓ A powerful plug-in that fits seamlessly into your creative workflow
- ✓ Compatible with Mac and Windows platforms giving you more flexibility
- ✓ Now you can retain the fine details of liquid - even the drops and splashes
- ✓ Automatic error correction saves time and creative energy

Description	Price Ex VAT
KnockOut 2.0 Mac/Win	£48.99



For interior and exterior advice, call
1-800-355-BUGS.

With KnockOut 2, there's no hair too wild and no image too complex to mask. Capture every strand of hair to create a truly realistic image

REALVIZ AEC Studio

The way to integrate & communicate your ideas



REALVIZ AEC Studio is the way to integrate and communicate your ideas into high-quality photo-realistic presentations. It includes REALVIZ Stitcher and ImageModeler.

The advanced features of these tools enhance the production workflow and create seamless effects, from incorporating rendering into filmed image sequences to modelling and measuring from photographs to creating high-resolution panoramas for backdrops and global illumination maps.

This combination of tools gives AEC professionals the power to deliver photo-realistic and impressive results without the need of expensive post production.

- ✓ Stitch Images together for your photo-montages
- ✓ Amplify the resolution of your camera by stitching many photos
- ✓ Create large 10000+ pixel-wide backgrounds and large prints
- ✓ Increase field of view and resolution of your camera
- ✓ Create up to 360° panoramas, spherical, cylindrical and cubic maps
- ✓ Create 3D environments from photographs for your renderings
- ✓ 3D modelling & reconstruction from photographs
- ✓ Survey & measure out of photographs
- ✓ Capture textures, and automatically rectify them for 3D rendering
- ✓ Export to most major 3D applications including 3ds max and CAD (via DXF)

Description	Price Ex VAT
AEC Studio Mac/Win	£709.99



Use ImageModeler to create highly realistic 3D models from photographs



© 2002 Gérard Ceccaldi

Create 360 degree panoramas for backdrops, reflection and global illumination maps

REALVIZ Stitcher 3.5

The most efficient way to build panoramas



REALVIZ Stitcher is the way to build high-quality panoramas for the Web, film, print and 3D.

With advanced features, panorama construction tools and a productive workflow, Stitcher 3.5 gives photographers and artists the power to deliver the most impressive panoramas in the formats they need.

REALVIZ Stitcher combines horizontally and vertically overlapping photos into stunning wide-angle, high-quality images for creating high-impact Web pages, prints, definition mattes, environment maps, image sequences and 3D models. Supporting a wide variety of image

formats, this application is an essential tool in any digital artist's kit.

- ✓ Build the highest-quality panoramas available in any technology
- ✓ Retouch your panoramas in your favourite image editor, for complete artistic control
- ✓ Deliver the highest quality renderings with up to 1 million pixels in resolution
- ✓ Deliver to the Web, 3D and print with generic image export formats
- ✓ New QuickTime export capabilities with previews
- ✓ Simple interface - just drag, drop, and stitch!
- ✓ No need to specify the number of images, image spacing or field of view
- ✓ Export and import in most common graphics formats

Description	Price Ex VAT
Stitcher 3.5 Mac/Win	£349.99

REALVIZ Stitcher EZ

Stunning panoramas at an entry-level price



Drawing on the powerful automatic stitching engine central to RealViz Stitcher, acknowledged by professional photographers, architects, multimedia and 3D artists worldwide as a must have, Stitcher EZ now offers photographers of all levels, regardless of previous experience, an intuitive solution for the creation of high quality panoramas.

At an entry level price, it allows you to produce stunning results on a standard personal printer, as well as for the enrichment of Web pages and virtual tours. REALVIZ Stitcher EZ now brings professional-level stitching capabilities to a whole new user community, regardless of their knowledge of digital imaging processes.

Stitcher EZ offers a fully automatic, one click solution, which enables even the most inexperienced photographer to convert their photographs into stunning wide-angle panoramas.

You can also use Stitcher EZ to scan large documents on a standard A4 scanner in several stages (up to 3 x 3), and then stitch them seamlessly back together.

- ✓ Create panoramic images up to 360° (cylindrical images)
- ✓ Create posters made up of mosaics up to 9 images (3 x 3 mosaic)
- ✓ Assemble your digital or scanned photos
- ✓ Easy-to-use interface: 1 click to complete a panorama
- ✓ The professional quality of Stitcher, together with the simplicity of the full automatic mode
- ✓ Create low resolution files for Web publishing or Email posting

Description	Price Ex VAT
Stitcher EZ Mac/Win	£24.99

Apple iLife 1.1

Apple's award-winning application for everything digital



See what happens when you take four best-of-breed multimedia applications - Apple iTunes for managing music, iPhoto for digital photography, iMovie for editing digital video and iDVD for creating your own DVDs - and integrate them so that they work together seamlessly. Suddenly, it all connects! Let your imagination soar: the iLife software applications let you do fun, creative things with your pictures, music and

movies in ways that PC users can only dream about. iLife lets you share your joy with family and friends in many different ways: from Email and the Internet to print and DVD.

What's more, you can do all these things and more with ease and simplicity - no need to thumb through a manual. It's all part of the iLife experience.

- ✓ iDVD 3: quickly make personalised DVDs right from your desktop
- ✓ iMovie: easily make movies from whatever you capture on your digital camcorder, from weddings, birthday parties, vacations and more
- ✓ iPhoto: organise, retouch, enhance, print and make albums with your photos
- ✓ iTunes 4: collect a digital library of music just to listen to, or add to slideshows, movies or DVDs

Description	Price Ex VAT
iLife Mac	£33.99

EPSON Stylus Photo 2100

Fulfilling the creative needs of professional photographers



EPSON continues to set the standards in inkjet printing. With the Stylus Photo 2100, an A3 2880 x 1440 dpi 7 colour printer, a new level of excellence is achieved.

- ✓ Breathtaking photo print quality - 2880 x 1440 dpi
- ✓ 100 A3+ sheet feeder
- ✓ Long lasting lightfastness suitable for re-sale or gallery display

Description	Price Ex VAT
Stylus Photo 2100 A3+ Colour 2880dpi Inkjet Printer	£509.99

EPSON Stylus Photo 5500

Professional A3+ desktop photo printing



The Stylus Pro 5500 is an A3+ 6-colour printer that offers reliable, high speed printing for designers, photographers, fine art printers and other graphics professionals. It provides extremely high-quality prints that last a lifetime thanks to EPSON's ColorFast pigmented inks.

- ✓ 2880 x 720dpi
- ✓ EPSON Variable-Sized Droplet Technology

Description	Prices Ex VAT
Stylus PRO 5500 A3+ Inkjet Printer	£1,595
COLOR Proofer 5500	£2,745
- inc. Stylus RIPDesigner	

Clearly REALVIZ

Digital Photography
& Imaging

Digital Video

Audio Visual
& Displays

Web & Internet

3D Design

Pre-Press
& ProductionIllustration
& GraphicsBusiness
& UtilitiesNetworking
& ConnectivityPeripherals
& Accessories

London's Clear Limited post production house has been around since 1994. They are the creative minds behind the famous 'Walking Pylons' for National Power, Tony Kaye's memorable British Rail spot 'Relax', Robbie Williams' 'Millennium' music video and George Michael's 'Outside' – plus commercial campaigns for De Beers and Lexus.

And they just won their second MTV Award. A video for a Queens of the Stone Age's song, 'Go With the Flow', triumphed in the Best Special Effects in a Music Video category – effects by Clear Ltd., that is – at the MTV VMA 2003 awards, which took place in New York.

Directed by Shynola through the Director's Bureau LA, all compositing on the promo was completed by Clear using REALVIZ® MatchMover® Professional, the automatic tracking software. Lead compositor on the project was Tom Harding, winner of the Best Special Effects Artist category in the 2003 Broadcast Young Talent Awards.

'Go With the Flow' is a psychedelic tale of playing 'chicken' with trucks in the desert. It's a great, big desert-highway trailblazing romp – very sex, drugs and rock and roll. This is the second time in three years that Clear has won in this category, having won best special effects for Robbie Williams' skin shedding in the seminal 'Rock DJ' in 2001.

For the video, the band was filmed against a green screen on the back of an old 60's Chevy pickup which had been painted matte black and white. The band were also painted black and white, so that they could be easily rotoscoped later.

Despite a woefully inadequate amount of tracking markers on the floor and walls of the green screen, Clear managed to nail these tricky shots using MatchMover Professional. The environment was completely built in 3D, with digital doubles of the band and trucks for the medium and long shots.

"The use of Matchmover Professional on this project was especially important, as Shynola provided all the 3D animation. However, they work on Maya, which we do not," says Steve Garrad, Senior Producer at Clear. "Nevertheless, we were still able to provide the tracks to them within the incredibly tight schedule."

"We are very proud that as a London effects house, we have twice won the most prestigious U.S. music video award for special effects. It shows that our commitment to edgy, groundbreaking effects work in music videos as well as feature films and commercials is being recognised beyond these shores".

A Bit of Software Magic

REALVIZ MatchMover Professional is the professional way to automatically track 3D camera data and motion from videos and film sequences, whilst offering users the ability to move smoothly back and forth between Automatic and Manual processes. There's no interruption of workflow, just the ease of automatic tracking, with the precision control that matchmoving professionals demand.

Since its launch in January 2002, MatchMover Professional has garnered an unparalleled level of praise from end-users, press and industry insiders alike. Considered by many post-production professionals as a key tool in their armory, MatchMover Pro has been used for incredible effects in many feature film and television projects, including, Steven Spielberg's alien abduction mini-series, "Taken" as well as "Dinotopia",

"Die Another Day", and "Harry Potter and the Chamber of Secrets".

Creating for Coca-Cola

Clear Ltd. also created an array of special effects as part of Coca-Cola UK's promotional campaign, 'TXT FOR MUSIC', using MatchMover Professional. For the spot, entitled 'Tunnel', Clear successfully created a vibrant CGI environment, compositing live action into the resulting scene.

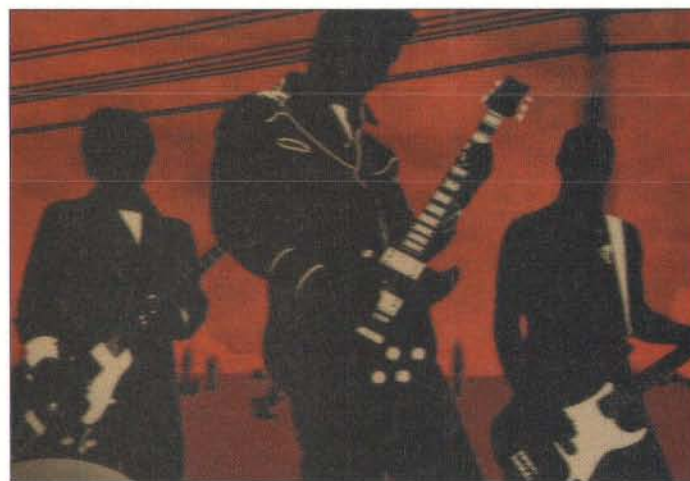


The eye-catching spot, stars a number of chart-topping bands – including Mis-Teeq, Busted and Kym Marsh (who leapt to fame as one of the winners of Popstars) – and premiered on prime-time TV in the UK at the beginning of March 2003.

"The aim was to create a huge warehouse environment on a grand scale, which would be impossible to realise in the real world," explains Steve Garrad, Clear Senior Producer. Inside the warehouse, Coca-Cola has created its own vast storage of recording studios, which have all the artists inside them.

"We created a CGI environment, and composited the live action into the environment", continues Garrad. "From the onset of the project, Clear's team of Senior Inferno operator Simon Huhtala and 3D lead animator Andi Farhall were involved in the design realisation of the director's ambitious brief. Both attended the shoot, by which point the modelling of the CGI had commenced due to the overlapping schedule."

"REALVIZ MatchMover Professional was used to track all of the greenscreen plates, so the 3D cameras would match the live action, which was achieved in 2 days for 16 shots. Clear has come to depend on MatchMover Professional for these quick



turnaround, high-quality projects. In this case the CGI models were built before the offline cut was approved. However, there were only 10 days left after this process to get the CGI tracked, lit and rendered for compositing into the commercial. As per

normal, REALVIZ didn't let us down," says Garrad.

REALVIZ
Matchmover

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discreet combustion 3

The definitive creative solution for motion graphics, compositing and visual effects



- ✓ Design JavaScript-based Expressions to craft complex animations without having to keyframe each parameter
- ✓ Make Macromedia Flash animations using the full power of the combustion vector paint and animation tools
- ✓ Create customised brushes so you always have the right tool
- ✓ Capture and output DV via FireWire

Other Key Features

- ✓ Single, unified application for vector paint, motion graphics design, animation and compositing
- ✓ Superior performance with optimised rendering, OpenGL acceleration, multi-processor support, extensive caching, and multiple viewports – all with real-time looped playback
- ✓ Advanced keying, colour correction, tracking, grain management and masking tools inherited from discreet's Academy Award-winning flame visual effects system
- ✓ Fully integrated, fully interactive particle system with real-time preview and OpenGL acceleration
- ✓ Powerful character generator for animated text, including non-destructive character-level animation and text effects

Discreet combustion 3 offers the creative tools, speed and interactivity that professionals need and artists crave. Painting, animation, editing and 3D compositing are combined in an integrated environment based on discreet's legendary user interface.

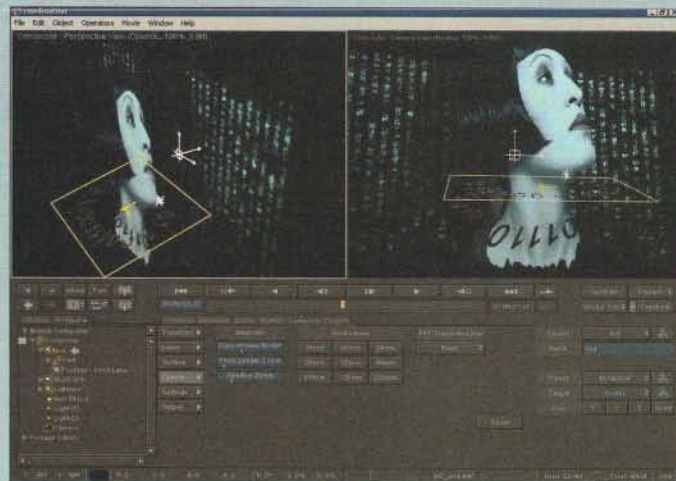
Designed to satisfy the world's most demanding effects artists and priced to fit within any budget, combustion 3 is the best solution for creating effects and motion graphics for video, film, DVD and the Web.

Key Version 3 Features

- ✓ Use the Edit Operator to break free from your NLE by assembling clips complete with transitions right in combustion



combustion 3 is resolution-independent with 8-, 10-, 12-, 16- and 32-bit (float) per component image processing



- ✓ Advanced, interactive rotoscoping for merging live action with animated effects
- ✓ Fully editable and automated schematic view representing the entire workspace
- ✓ Resolution-independent with 8-, 10-, 12-, 16- and 32-bit (float) per component image processing
- ✓ Integration with industry-standard creative tools like Flash, Photoshop, Illustrator, 3ds max, Maya and more
- ✓ Free Backburner network rendering and central job management across multiple systems

Composite

- ✓ New – Split clip on the Timeline allows advanced layering control
- ✓ New – Use layers as if they were stained glass to create beautiful coloured light effects

Paint

- ✓ New – Utilise the full power of vector paint and animation tools to create Flash .swf outputs, enabling you to offer a more extensive design solution to your client

- ✓ New – Custom brushes enable you to create unique advanced effects and textures

NEW – Edit

- ✓ Assemble clips and output them in a composite for in-context editing
- ✓ Integrate editing into your composites

Keyframe and Timeline Controls

- ✓ New – Markers provide the ability to add notes and visual cues to your timeline

Complementary Products

Intuos2p.13

Streamline your video workflow with this intuitive tool

Final Cut Pro 4p.18

The professional way to edit video on a Macintosh

LCD 1880SX.....p.23

Make sure you see your video content in the best possible light with a LCD monitor from NEC-Mitsubishi

Studio MX 2004 ..p.25

Create a stunning Web interface to accompany your Web video

matrox RTMac

Work with 3 layers of video in real time



wide variety of broadcast-quality digital video effects in real time. With Matrox RTMac and Final Cut Pro, video transitions and keyframeable motion effects happen instantly.

- ✓ Powered by Matrox Flex 3D for broadcast-quality effects and transitions
- ✓ Complements Apple's FireWire support built into Power Mac G4/G5 computers
- ✓ Multiple timeline support for enhanced workflow and project organisation
- ✓ Three-point editing model with "JKL" keyboard-control navigation for professional editing
- ✓ Keyframeable Bezier control for precise motion path manipulation of video and graphic elements
- ✓ Try out any number of different effects and transitions – in real-time!

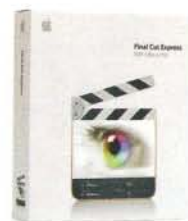
A Matrox RTMac in your Apple Power Mac G4 lets you work with three layers of video and graphics in real time and create broadcast-quality effects instantly! Real-time editing lets you experiment to your heart's content. There's no penalty for changing your mind. Try out any number of different effects and transitions. Get exactly the look you want every time.

Matrox RTMac is powered by Matrox Flex 3D, a revolutionary video mixing and effects architecture that exploits the explosive performance of award-winning Matrox graphics accelerator technology to provide a

Description	Prices Ex VAT
RTMac Mac	£429.99

Apple Final Cut Express

A robust set of editing, compositing & titling tools



Create professional-quality video with Final Cut Express. Whether you are a digital video enthusiast, a small business video developer, or an event videographer, Apple's new feature-rich DV editing software is designed for you.

It is optimised for the DV format and comes with all the high-quality compositing, titling and effects capabilities you need for professional-level video. Unlike many DV editing solutions, Final Cut Express lets you

work like a pro, easily open and edit multiple projects containing multiple sequences, at the same time. Choose from hundreds of transitions, filters and effects, including the bundled library of digital video effects from CGM. Preview effects like cross-dissolves and wipes in real time without rendering. You can even nest sequences within sequences, making it easier to put together long-form projects.

- ✓ With Final Cut Express you can edit video like a professional!
- ✓ This software package comes with over 200 transitions, filters and effects
- ✓ Features easy-to-use titling tools, accessible right from the Viewer window
- ✓ It supports Photoshop files and layers within your video projects!
- ✓ Allows you to communicate with the built-in FireWire on your Macintosh

Description	Price Ex VAT
Final Cut Express Mac	£211.99

Adobe Premiere Pro 7

Real-time nonlinear video editing



Adobe Premiere Pro 7 software is a revolutionary nonlinear video editing application. Real-time video and audio editing tools give you precise control over virtually every aspect of your production. From advanced colour correction to 5.1 surround sound mixing, you have the tools you need at your fingertips. Plus, flexible import and export options reduce format constraints. Built for the superior performance of Microsoft Windows XP systems, Adobe Premiere Pro 7 takes video production to an entirely new level.

Dramatically reduce the time between original concept and final delivery of files

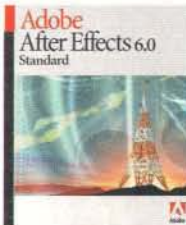
and increase your day-to-day productivity with the powerful new features in Adobe Premiere Pro. With its new render-free editing experience, you can view exactly how your productions will look - in full resolution and with effects, titles and transitions in place - so you can make editing decisions more quickly and ultimately deliver files faster.

- ✓ Take advantage of rendering that happens so fast it's almost unnoticeable
- ✓ Experience extensive hardware support and an open architecture
- ✓ Multiple, nestable timelines
- ✓ Adjust hue, saturation, and lightness for highlights, midtones, and shadows
- ✓ Produce richer, more vibrant audio using sample-level editing, VST filters, track-based effects, and 5.1 surround sound

Description	Prices Ex VAT
Premiere Pro 7 Win	£520.99
Premiere Pro Upgrade Win 7	£165.99

Adobe After Effects 6

The essential tool for motion graphics & visual effects



tools available in After Effects Standard with fast, precise motion tracking and stabilisation, advanced keying and warping tools, more than 30 additional visual effects, a particle system, Render Automation and network rendering, 16-bit-per-channel colour, 3D channel effects, and additional audio effects. If your business doesn't require these additional features, you can purchase After Effects Standard now for its core tools, then upgrade to After Effects Professional later.

Adobe After Effects 6.0 software sets the standard for motion graphics and visual effects. After Effects Standard provides the core 2D and 3D compositing, animation, and visual effects tools you need to produce high-quality content for film, video, DVD, and the Web. After Effects Professional expands your options for producing sophisticated motion graphics and visual effects. It combines the powerful

- ✓ Be more productive thanks to performance optimisations
- ✓ Create animated text with unprecedented ease
- ✓ Built-in vector paint engine
- ✓ Get faster results with the new Motion Tracker
- ✓ Automate production tasks

Description	Prices Ex VAT
After Effects Pro 6 Mac/Win	£902.99
After Effects 6 (Standard to Pro) Upgrade Mac/Win	£415.99
After Effects Standard 6 Mac/Win	£554.99
After Effects Standard Upgrade Mac/Win	£165.99

REALVIZ MatchMover Pro 2.5

The professional way to track 3D



REALVIZ MatchMover Professional Corsica is the way to automatically or manually track 3D camera data and object motion from video or film sequences.

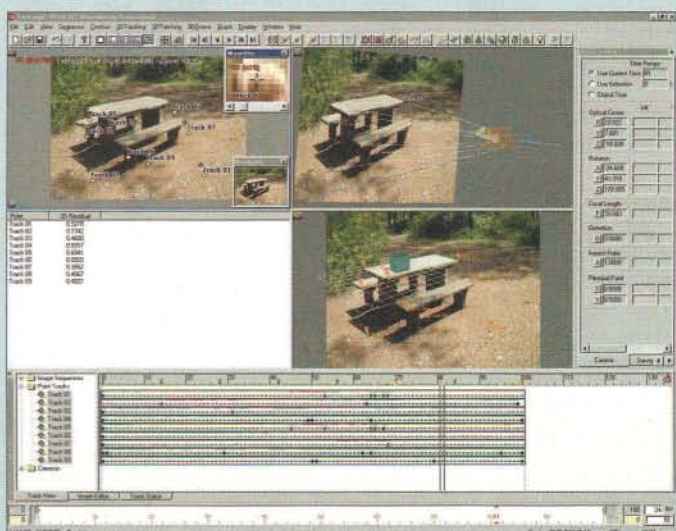
REALVIZ MatchMover 2.5 Professional features automatic tracking, camera solving, track filtering, automatic 3D point reconstruction, and allows creation and manipulation of animated mattes to specify areas of interest.

Smoothly combine the ease of automatic tracking with the precision control and workflow integration match moving

professionals demand, to reach an unprecedented level of speed, accuracy and confidence.

- ✓ Push-button automatic tracking and calibration make tracking a breeze
- ✓ Automatic cleanup features keep the best possible tracks
- ✓ Matte sequence assists with specific object tracking
- ✓ Blazing fast and accurate 2D tracking for substantial time saving
- ✓ Editable and keyable 2D tracking curves to help track the most difficult shots
- ✓ Use Helper Frames to solve those difficult pan shots
- ✓ No camera or stage information necessary
- ✓ Automatically calculates variable focal length (zoom) shots

Description	Prices Ex VAT
MatchMover Pro 2.5 Win	£3,499
MatchMover Pro Corsica	£4,999
MatchMover Trade Up to Corsica Win	£3,199



MatchMover computes the 3D camera path and all the camera internal parameters, such as zoom and distortion

REALVIZ ReTimer 2.6

The professional way to control time



REALVIZ ReTimer Professional is the way to control time for astonishing slow motion or fast motion effects for artists who want to create superb visual effects.

REALVIZ ReTimer Professional lets you speed up or slow down any video, film, or image sequence, giving you the ultimate flexibility during post-production. With an innovative technology that enables calculation of each

pixel move, REALVIZ ReTimer Professional automatically generates new frames in between existing frames, enabling high quality slow downs. This package also includes ReTimer HD, a plug-in for Adobe After Effects 5.5 or compatibles (discreet, combustion™, Final Cut Pro).

- ✓ Slow down or speed up film, video or image sequences in any format
- ✓ Get smooth slow motion from your existing footage
- ✓ Motion blur adds realism to fast moving sequences
- ✓ Motion vector analysis and control allows for precise editing
- ✓ Complete manual or automatic pixel tracking correction
- ✓ Variable retiming factor allows for ease-in and ease-out of slow or fast motion effects with full velocity curve control

Description	Prices Ex VAT
ReTimer SD 1.1 M/W	£249.99
ReTimer HD 1.1 M/W	£549.99
ReTimer Pro & 1 Batch & ReTimer HD Win	£1,069



Get smooth slow motion from your existing footage without the need for expensive slow motion cameras by automatically creating new in-between frames



NewTek

Aura Video Paint 2.5

The fastest, easiest, most functional video paint, composite, and special effects package ever made



Aura Video Paint 2.5 is the fastest, easiest, most functional and versatile video paint, composite, layering and special effects package ever made. It blends paint tools, compositing, cel animation, special effects, 2D animation and character generation into one superb system. Artists can add motion, colour, 2D and 3D elements, effects and titles to any digital image.

Aura Video Paint offers unique features designed specifically for video artists, digital cartoon animators and editors who want an easy-to-use and powerful digital video effects solution. State-of-the-art animated video painting tools allows you to paint directly over any frame in a video sequence. Retouch videos and create remarkable

special effects using an extensive set of amazing filters. Instantly playback your project to immediately see the result without any renders.

Aura Video Paints versatile output options allow advanced interoperability with most of the professional editing solutions such as Adobe Premiere, Avid Xpress and Media 100 iFinish. Aura Video Paint also offers superior integration with Newtek's LightWave and VideoToaster products.

- ✓ Ultra fast painting engine and infinite layering system
- ✓ Works seamlessly with LightWave 3D and supports Photoshop layers
- ✓ Add motion, colour, 2D and 3D elements, effects and titles to any digital image
- ✓ Record pen pressure, azimuth, and speed to export as a LightWave channel
- ✓ Covers everything from Web graphics to high end TV, HDTV and film work
- ✓ Image stabilisation removes shake



Aura Video Paint 2.5 enables instant animation of an unlimited number of video layer and it's toolset includes pressure sensitive brushes, shapes and text creation

Description	Prices Ex VAT
Aura Video Paint 2.5 Parallel Win	£599.99
Aura Video Paint 2.5 Upgrade (from Aura 1) Win	£220.99



Edition DV 5

Superb picture quality and fast MPEG 2 encoding



Edition's superior editing platform delivers superb picture quality with exclusive sub-pixel image processing. The easy-to-use interface gives you unparalleled flexibility with ultra fast MPEG-2 encoding and the ability to print straight to CD or DVD from the timeline.

Edition is truly multi-tasking, so you can continue working while effects are rendered. It makes managing complex effects easy, and lets you customise your working environment. With Edition's unique InstantSave technology, your work is always in a saved state. No other system offers as much flexibility at such a price.

- ✓ Edition DV includes a full version of Impression DVD Pro and Commotion at no extra cost!
- ✓ Export to MPEG, then burn to VCD or DVD directly from timeline to save time
- ✓ Designed for Windows 2000/XP for ultimate stability
- ✓ Includes IEEE 1394 (FireWire) PCI I/O card for fast DV capture to your system
- ✓ Unlimited timeline tracks for video, audio, graphics and titles for increased scope
- ✓ Pan it, zoom it, change colours or create ultra-smooth slow motion
- ✓ Unique InstantSave technology means, your work is always in a saved state
- ✓ Supports background processing for a faster workflow

Description	Prices Ex VAT
Edition DV 5 Win	£425.99
Edition DV 5 Upgrade	£169.99



Hollywood FX Pro 4.6

Includes over 300 3D transitions and FX



Hollywood FX Pro gives you over 300 true 3D transitions and MultiWindow FX along with a powerful suite of tools to create your own incredible FX. HFX Pro includes simple and advanced control over flight path, lighting, shadows, shine, motion blur, trails and anti-aliasing. Instant feedback whilst designing a composite is crucial for today's projects.

- ✓ Advanced keyframe editor allows precision control over parameters
- ✓ Instant feedback at unparalleled speeds lets you work fast

Description	Price Ex VAT
Hollywood FX Pro 4.6 Win	£126.99



Commotion Pro 4.1

The power of the paintbrush with compositing tools



Commotion is designed by award-winning special effects artists and leading film-makers. Commotion combines leading paint and effects technology with fully-featured advanced compositing tools, and is the only desktop application to offer instant playback of moving video, DTV, HDTV and film images.

- ✓ Create sophisticated motion graphics with keyframeable effects
- ✓ The compositing engine is up to 30% faster and the paint engine is increased by 200%

Description	Price Ex VAT
Commotion Pro 4.1 Mac/Win	£679.99



Edition Pro 5

The complete video publishing solution



Pinnacle Edition PRO version 5 is the first professional editing application to actually incorporate DVD authoring into its workflow. By incorporating DVD creation, Pinnacle Edition PRO version 5 gives you an entirely new set of creative options - for example the ability to resize, reposition and apply a range of effects or filters to moving menus and buttons in a manner which was simply not possible before.

It features integrated DVD authoring, 1000 real-time effects, background processing and InstantSave, DV and analogue input and output, powerful graphics accelerator card included a specially optimised AGP graphics card.

- ✓ Sophisticated Video and Audio Capture
- ✓ Ultra High Quality Video and Audio Processing
- ✓ Powerful Output Options
- ✓ Pinnacle Impression DVD SE included
- ✓ The Power of Hollywood FX
- ✓ Impression DVD SE included, giving you a range of useful DVD authoring tools
- ✓ A wide variety of output options puts you in control
- ✓ Export to DVD, SVCD, Windows Media, Quicktime, .AVI
- ✓ TitleDeko RT included allowing you to easily create titles directly over video
- ✓ Powerful rendering engine ensures a high quality final product

Description	Price Ex VAT
Edition Pro 5 Win	£535.99



Final Cut Pro 4

The professional tool for editing and finishing



Final Cut Pro 4 has sophisticated editing, compositing, effects and audio tools that allow professional editors to meet demanding post production deadlines while maintaining their creativity.

- ✓ A scalable digital nonlinear editing system for ultimate flexibility
- ✓ Easily edit by using asymmetric trimming, master and merged clips
- ✓ Use multiple video streams for compositing and effects work

Description	Prices Ex VAT
Final Cut Pro 4	£679.99
Final Cut Pro 4 Upgrade	£254.99



DVD Studio Pro 2

Redefining the art of professional DVD authoring



Designed from scratch to address the needs of next-generation DVD authoring, DVD Studio Pro 2 combines the legendary ease of use of iDVD with major enhancements to the professional features of DVD Studio Pro 1.5.

- ✓ New professionally-designed templates provide more options
- ✓ The new menu editor lets you easily create full-featured menus
- ✓ New context-sensitive Drop Palettes provide ultimate ease-of-use

Description	Price Ex VAT
DVD Studio Pro 2	£339.99

discreet™ cleaner 6

Your total solution for live Mac Web casting



NEW!



Cleaner 6 for Mac contains critical advancements, including performance and user-interface improvements, new tools and an expanded collection of industry-leading codecs.

Optimised for the Apple Mac OS X operating system, cleaner 6 software includes exciting new Aqua user interface enhancements. New watch folders, drag-and-drop capabilities, and nested settings will streamline workflow and allow customers to complete projects with greater efficiency. Taking full advantage of the multi-threaded processing architecture in

the Mac OS X, cleaner 6 for Mac will also deliver blazing performance gains – making the processing of streaming media easier and faster.

- ✓ Support for QuickTime 6 (with MPEG-4 and AAC)
- ✓ Create video in the most important playback format for the Mac
- ✓ Up to 150% performance increase in filtering and encoding speeds over cleaner 5 on dual G4 processors
- ✓ Up to 100% performance increase in filtering and encoding on single G4 processor
- ✓ MPEG-1 & 2 with 2-pass Variable Bit Rate Encoding
- ✓ Create high-quality video for DVDs and Video-CDs
- ✓ Encode directly from the editing station for a streamlined workflow
- ✓ Output content faster
- ✓ Organise and manage all your professional filtering and encoding settings more easily



With cleaner software, you will find that many of the filters now process in native YUV to help maintain source fidelity

Description	Prices Ex VAT
cleaner 6 Mac	£435.99
cleaner 6 Upgrade (from 4.x/5.x) Mac	£135.99

discreet™ cleaner XL

Your total solution for live Windows Web casting

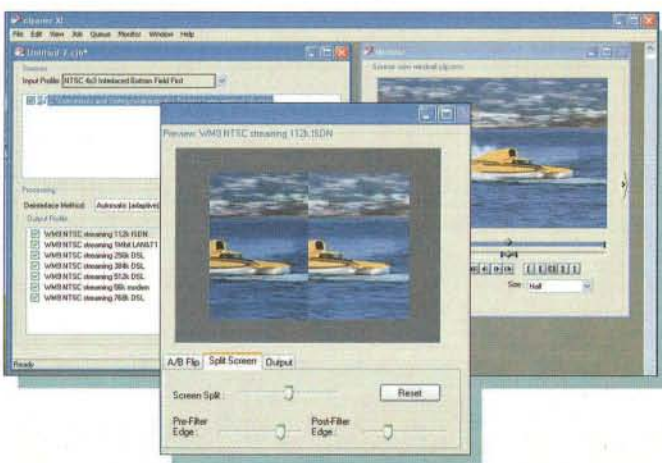


Cleaner XL for Windows is based on the latest Microsoft .Net technology, and is a totally re-architected, next generation successor to cleaner 5.

Cleaner XL is one of the first professional tools to ship offering support for the new HD video and multi-channel audio capabilities of Windows Media 9 Series. cleaner XL for Microsoft Windows is packed with all the tools you need to transform ordinary media into something electrifying. High-quality filters and total control of the industry's leading encoders let you create

stunning Windows Media 9 and QuickTime 6 video. Use MPEG-4 and Kinoma to master video for handheld PDAs and cell phones.

- ✓ Optimised for multiple processors
- ✓ Optimised for Intel Hyper-Threading
- ✓ Intelligent colour-space conversion
- ✓ 100-250% faster than cleaner 5.1.2 on same hardware
- ✓ Get the best audio and video quality
- ✓ Professional audio filters
- ✓ Automatically remove hum, off-axis noise and clipping/drop outs
- ✓ Compressor/limiter
- ✓ Multiple audio fade options – choose from four different curves when fading in and out
- ✓ New video filters
- ✓ Adaptive Noise Reduction
- ✓ Windows Media 9 including support for HD and multi-channel audio



Cleaner XL is packed with all the tools you need to transform ordinary media into something electrifying

Description	Prices Ex VAT
cleaner XL Win	£435.99
cleaner XL Upgrade (from 4.x/5.x) Win	£135.99

contour™ ShuttlePRO V.2

Powerful productivity tool for audio/video pros



NEW!

The ShuttlePRO V.2 is a powerful productivity enhancement tool for video and audio editors. The ShuttlePRO V.2 even comes pre-configured for many of the leading Audio and Video applications. You can also easily customise the ShuttlePRO V.2 for virtually any application.

The ShuttlePRO V.2 is designed for ergonomic integrity and maximising productivity, allowing one-hand access to the fully programmable buttons and jog/shuttle knob. Nine of the buttons have removable keycaps for easy labelling and

referencing. The inner ring or 'jog' rotates through 360 degrees and provides precision frame-by-frame control. The outer black ring or 'shuttle' is rubberised and spring-loaded. It facilitates fast forward and rewind. You can also use the jog and shuttle for many other purposes such as scrolling, volume control and sequencing.

- ✓ The software is pre-configured for dozens of applications
- ✓ It monitors the application you are in and automatically switches settings
- ✓ Multiple settings per application give you plenty of options
- ✓ You can easily add/edit your own custom settings
- ✓ 15 fully-programmable buttons give you lots of control
- ✓ Super smooth jog knob for frame by frame navigation and control – ShuttlePRO V.2 features new alloy knob for professional feel

Description	Price Ex VAT
ShuttlePRO 2 USB Multimedia Controller (Black) Mac/Win	£84.99

contour™ ShuttleXpress

A powerful productivity enhancement tool



Modelled after Contour's award-winning ShuttlePRO, the ShuttleXpress brings professional multimedia control to users at an even more attractive price. It can be used by itself, or to even further enhance your control, in conjunction with a ShuttlePRO for multiple device control.

The ShuttleXpress is a 5 button Jog & Shuttle Multimedia Control Surface. It is amazingly flexible and can be used with virtually any application. The ShuttleXpress comes pre-configured for many of the leading Audio and Video applications. You can easily customise the ShuttleXpress for virtually any application. The ShuttleXpress

is designed for ergonomic integrity and maximising productivity, allowing one-hand access to the five fully programmable buttons and jog/shuttle knob. The inner ring or 'jog' rotates through 360 degrees and provides precision frame by frame control. The outer black ring or 'shuttle' is rubberised and spring-loaded. You can also use the jog and shuttle for many other purposes such as scrolling, volume control and sequencing.

- ✓ Pre-configured for dozens of applications
- ✓ Monitors the application you are in and automatically switches settings
- ✓ Easily add/edit your own custom settings
- ✓ Five fully programmable buttons
- ✓ Super smooth jog knob for frame-by-frame navigation and control
- ✓ Spring-loaded and rubberised shuttle knob

Description	Price Ex VAT
ShuttleXpress Multimedia Controller Mac/Win	£39.99

sorensonmedia

Squeeze 3.5 Compression Suite

Encode and deliver video for the Web, CD or other devices



While most compression tools are cumbersome, with steep learning curves, Squeeze is easy to use and requires no in-depth knowledge of the complexities of compression technology.

Built to interface with all of the Sorenson Media professional codecs, Sorenson Squeeze 3.5 is the first Variable Bit Rate (VBR) compression application for novice and pro users alike. For beginners, its drag-and-drop interface simplifies intelligent compression of audio and video media.

- ✓ One-Pass VBR compression reduces processing time to non-VBR standards
- ✓ Supports Two-Pass VBR, which produces higher-quality video
- ✓ In/out Trim Points allow you to create multiple output files from a single source file
- ✓ Request a final target output file size and adjusts the compression settings to reach the desired file size
- ✓ Squeeze includes optimised presets for streaming & progressive download
- ✓ Capture digital video through any DV source
- ✓ Batch Processing through Watch Folders
- ✓ Player templates for SWF output
- ✓ Integrated links for SWF output allows ActionScript variables to be encoded as part of the video



The wide variety of project settings available allows you to encode one piece of video in several different formats and at different bit-rates simultaneously

Description

Squeeze 3.5 Compression Suite Mac/Win

Price Ex VAT

£299.99

sorensonmedia

Squeeze for MPEG-4

Encode and deliver high-quality MPEG-4 content



Built for the Sorenson MPEG-4 Pro codec, Sorenson Squeeze 3.5 is the first Variable Bit Rate (VBR) compression application for novice and pro users alike. For beginners, its drag-and-drop interface makes intelligent compression of MPEG-4 video as simple as selecting a preset data rate setting.

Fully compliant with the ISMA MPEG-4 specification, Sorenson Squeeze 3.5 meets the latest international standard for digital video as specified by the Moving Picture Experts Group (MPEG). You can now deliver high-quality video in this latest format with advanced MPEG-4 tools.

- ✓ Includes tools for MPEG-4 Visual Simple Profile and Visual Advanced Simple Profile
- ✓ One-Pass Variable Bit Rate (VBR) compression
- ✓ Two-Pass VBR compression
- ✓ Squeeze allows you to request a final target output file size
- ✓ Includes optimised presets for streaming, progressive download
- ✓ Lets advanced users customise their settings
- ✓ Batch processing through Watch Folders saves you time by processing multiple files
- ✓ Adjustable cropping ability allows you to "cut out" undesirable areas within your video
- ✓ Get maximum flexibility with advanced control of Audio/Video Filters

Description

Squeeze 3.5 for MPEG-4 Mac/Win

Price Ex VAT

£149.99

sorensonmedia

Squeeze 3.5 for Flash MX

The smart choice when developing video for the Web



Sorenson Squeeze 3.5 for Macromedia Flash MX is the first Variable Bit Rate (VBR) compression application for both professionals and novices alike. The intelligent yet simple interface accesses the advanced features in the Sorenson Spark Pro codec to create high-quality video at the smallest possible file size.

Sorenson Squeeze's drag-and-drop interface includes buttons that correspond to various delivery scenarios. All you need to do is select the preset for your intended audience and click the "Squeeze It" button. Squeeze automatically selects the compression parameters to create the highest-quality video possible and outputs it into

Macromedia Flash SWF or the new FLV format.

- ✓ Squeeze supports Two-pass VBR, which produces higher-quality video while only adding slightly more processing time
- ✓ The stitching feature takes larger files and breaks them into smaller SWF files
- ✓ Squeeze includes optimised presets for connections ranging from modem to high-quality CD delivery
- ✓ Save time by using Watch folders to process multiple files
- ✓ Cropping ability allows you to "cut out" undesirable areas within your video
- ✓ Squeeze analyses your video to find the loudest sound and then adjusts the audio to maximum volume

Description

Squeeze 3.5 for Flash MX (Includes Sorenson Spark Pro Codec) Mac/Win

Price Ex VAT

£79.99

Shake 3

Advanced digital compositing for fantastic FX!



Shake 3 is the industry leading compositing software for some of Hollywood's most fantastic visual effects. The workflow is based on an intuitive non-linear process tree, which allows you to perform changes at anytime.

Specifically designed to handle complex, high resolution compositing, Shake is completely resolution independent, includes extensive scripting capabilities and comes bundled with Primatte and Keylight for creating perfect chroma keys right out of the box. Shake is the proven software for professional quality composites and its extensive toolset has been used on the last 6 Oscar winners for best visual effects.

- ✓ Includes production-proven visual effects tools such as layering, tracking, roto-scoping, painting, colour correction and new film grain simulation
- ✓ Built-in keying capabilities include Photron Primatte and CFC Keylight, two industry-leading professional keyers
- ✓ For additional flexibility, Shake supports third-party plug-ins such as The Foundry, GenArts, Ultimatte and more
- ✓ The resolution-independent, hybrid scan line/tile-based render engine allows composites to contain standard-definition (SD), high-definition (HD) and film images simultaneously
- ✓ Artists can choose to process operations at 8-, 16- or 32-bit (float) colour resolution, enabling HDR images to be composited with greater fidelity while maintaining overall performance
- ✓ New trackable paint and roto tools free you from mundane tasks



Tracking can be applied to vector paint strokes or Bezier roto-shapes for automating much of the time-consuming roto-scoping process.

Description

Shake 3.0 for OS X

Price Ex VAT

£3,233

SANYO Micro-Mobile Projectors

Perfect for anyone on a budget or where portability is a key requirement



These lightweight projectors deliver the perfect combination of performance and affordability to make them the ideal companion for both salesman and educator.

Proven for the quality image they produce and for their exceptional durability and reliability, they enhance any presentation.

Available as both SVGA and XGA models, these projectors are bright enough for larger audiences and quiet enough to use in small meeting rooms. They are supplied with carry cases and feature zoom lenses

and keystone correction as standard, giving them the flexibility to fit easily into virtually any presentation environment.

- PLC-SW30A**
- ✓ 1100 ANSI lumens brightness
 - ✓ True SVGA resolution
 - ✓ Weight: 2.8kg
 - ✓ Super quiet operation (37db)
 - ✓ Built-in speaker
 - ✓ Zoom lens
 - ✓ 2000-hour lamp life
 - ✓ 3 year warranty RTB

- PLC-XW20A**
- ✓ 1100 ANSI lumens brightness
 - ✓ True XGA resolution (1024x768)
 - ✓ Weight: 2.8kg

Description	Prices Ex VAT
PLC-SW30A Projector 1100 ANSI SVGA with 3 year Warranty + FREE LAMP	£999.99
PLC-XW20A Projector 1100 ANSI XGA + FREE LAMP	£1,399



SANYO Ultra-Portable Projectors

Best-selling multi-purpose projectors



These projectors are made from a lightweight magnesium alloy making them very portable and extremely tough and durable. Available as SVGA and XGA models with a variety of input connections and different lenses, they are ideal for all sorts of portable presentation and training applications as well as permanent installations.

With exceptional brightness for their size they are ideal even in bright-light

environments. The remote handset gives the user extra functions including lens zoom and focus, PC remote control, ability to freeze and blank images and bring up an on-screen presentation timer and even incorporates a laser pointer. Operating at only 37dB, the compact range are very quiet and unobtrusive even in the smallest meeting room.

- PLC-SU/XU series**
- ✓ DVI digital input
 - ✓ Optional wireless input box (not available on SU40/XU40)
 - ✓ Optional PCMCIA presentation card reader (not available on SU40/XU40)
 - ✓ Weight 3.9KG
 - ✓ Super quiet operation (37dB)

Description	Prices Ex VAT
PLC-XU55 Projector 2500 ANSI XGA	£2,995
PLC-XU38 Projector 2000 ANSI XGA with Short Throw Lens	£2,699
PLC-SU40 Projector 1750 ANSI SVGA	£1,399
PLC-XU40 Projector 2000 ANSI XGA	£2,499

SANYO Home Cinema

Get authentic movie theatre enjoyment at home!



this projector – the LCD panel with 1.57 million pixel resolution, exceptionally high contrast and many more sophisticated features.

- ✓ True 16:9 widescreen
- ✓ 700 ANSI lumens
- ✓ 800:1 contrast ratio
- ✓ Manual lens shift (horizontal & vertical)
- ✓ Short throw lens
- ✓ Electronic keystone correction
- ✓ Ultra quiet operation – 29dBA in dark mode
- ✓ Illuminated remote control
- ✓ Long lamp life – up to 3000 hours in dark mode
- ✓ Weight: 3.4 kg

The new PLV-Z1 from Sanyo is set to revolutionise the home cinema /entertainment market, making the benefits of high quality, widescreen images of up to 200" available to a wider audience than ever before.

The 16:9 widescreen viewing aspect makes what you watch more dynamic while the high-resolution and beauty of the projected images are simply stunning. The advanced technology required for this extraordinary image quality can be found in every part of

Description	Prices Ex VAT
PLV-Z1 Widescreen Home Cinema Projector 700 ANSI W-SVGA	£1,199
PLV-70 Widescreen Home Cinema Projector 2200 ANSI W-XGA	£4,299

SANYO Plasma Screens

Make a dramatic statement with a plasma screen!



As well as the extra flexibility of nent video and RS-232.

H1EV
42" high definition plasma
play panel

Aspect ratio: 16:9
pixels: 852 x 1024
colours: 16.77 Million
brightness: 650 cd/m2

PDP42-H1EV
42" high definition plasma
display panel

- ✓ Aspect ratio: 16:9
- ✓ No. pixels: 852 x 1024
- ✓ No. colours: 16.77 Million
- ✓ High brightness: 750 cd/m2
- ✓ Size: 1225 x 641 x 100mm

Description	Prices Ex VAT
Sanyo 32" Plasma Screen	£2,595
Sanyo 42" Plasma Screen	£3,199

Sanyo has two cutting-edge high-resolution plasma displays on offer. Available as 32" and 42" options the new Sanyo models offer outstanding picture quality and a viewing experience that will not be forgotten quickly!

They have a brightness of 650cd/m2 through high definition Alls Panel Technology, which interlaces two pictures into each frame to give a superior brightness and image clarity that you won't find anywhere else.

The many input terminals include two AV-in connectors for Video, S-Video, BNC and 4-

KEYSPAN Presentation Remote

The perfect tool for PowerPoint presentations



Presentation Remote as a keyboard. Hence, there is no software to install, and once the RF receiver is plugged into a USB port you can begin your presentation within seconds.

- ✓ Plugs into a USB port on a Windows or Macintosh computer so you're ready to go in seconds
- ✓ Features a 'Plug-and-Play' interface - no software required, making it quick and easy to use
- ✓ Combination laser pointer mouse control gives you greater flexibility
- ✓ Draws its power from the USB connection so a power adapter is not required
- ✓ Apple Mac OS X, Linux and Windows XP compatibility ensure compliance with the latest laptop operating systems
- ✓ Extensive signal range gives you greater mobility during your presentation

Bring your presentations to life! The Presentation Remote features a 900 Mhz radio frequency (RF) signal with a range of up to 40 feet, even through walls and other obstacles. It is the first remote control to provide RF reliability, mouse control and a laser pointer at such a competitive price.

Keyspan's new remote allows presenters to focus on their audience rather than the keyboard. It is compatible with both Windows and Macintosh versions of PowerPoint and with all brands of projectors. One of the most attractive features of this remote is that both Windows and Mac OS recognise the

Description	Price Ex VAT
Keyspan USB Presentation Remote Mac/Win/Linux	£53.99

TOSHIBA T60 LCD projectors for business and home cinema



The T60 Projector is unusually lightweight for this brightness class. This NEW model from Toshiba will project super sharp pictures and image clarity even in the brightest of rooms. It boasts 1,500 ANSI lumens of brightness and comes with a 3 year warranty as well. You could hardly say we've been cutting any corners with this projector – it just won't break the bank.

This multifunctional model offers true image quality in bright daylight and can

even manage short throw distances for flexible presentations in front of small audiences. Moreover, the LCD technology ensures luscious and bright colours for your professional presentation.

- ✓ 1,500 ANSI Lumens
- ✓ Weighs 2.2 kg
- ✓ XGA model, ideal for businesses
- ✓ Features an ECO mode function for increased lamp life and a lower fan noise
- ✓ 400:1 Contrast
- ✓ Inputs: RGB (D-sub 15), video (RCA, S-Video), audio (Stereo Mini jack)
- ✓ ECO mode for increased lamp life of up to 4,000 hours max
- ✓ Keystone correction: vertical +/- 15 degrees (automatic and manual)

Description	Prices Ex VAT
TLP T60 LCD Projector, 1500 ANSI, XGA, 2.3kg	£1,381
TLP T61 LCD Projector, 1500 ANSI, XGA, 2.3kg with Visualiser Arm	£1,798
TLP T70 LCD Projector, 2000 ANSI, XGA, 2.3kg	£1,789
TLP T71 LCD Projector, 200 ANSI, XGA, 2.3kg with Visualiser Arm	£2,195

TOSHIBA P6 1,100 ANSI lumens projector that weighs just 900g



Toshiba presents the latest DLP projector from its mobile class: the small, lightweight and extraordinarily powerful P6. This device with a weight of only 900g is the first model of Toshiba's product range to fall below one kilogram.

With dimensions of 5.21 cm x 9.37 cm x 24.77 cm (h x d x w), the P6 almost has pocketbook dimensions. Toshiba's "little one" fits into any briefcase together with a notebook or can even be stored in the glove compartment of any car – a big relief for

mobile users on the move with high demands on ease-of-use and technology.

Providing a brightness of 1,100 ANSI lumens and a very high contrast ratio of 2,000:1, the new compact projector ensures excellent image and colour quality even in daylight. The professional device can be used flexibly at the most different presentation locations, from small office rooms to large conference halls.

- ✓ Introducing the latest in DLP technology
- ✓ Has pocketbook dimensions of 5.21cm x 9.37cm x 24.77cm (h x d x w)
- ✓ Very high contrast ratio of 2,000:1
- ✓ Only weighs 900 grams
- ✓ 1,100 ANSI lumens
- ✓ Manual zoom and focus

Description	Price Ex VAT
TLP P6 DLP Projector, 1100 ANSI, 2000:1 contrast	£1,995

TOSHIBA Plasma Screens Now you can enjoy the bigger picture



Toshiba now offers two high-quality plasma displays. The two models, 42" (42WP16) and 50" (50WP16) boast the highest picture contrast available ensuring the very best possible colour reproduction. Because the plasma panel emits light evenly, your audience can enjoy wide angle viewing without flicker wherever they are sitting in the room.

The staggering 3000:1 contrast ratio achieved by the Toshiba displays enables them to give the very best picture

reproduction in even the brightest lit environments. They make stunning additions to any reception area, office or boardroom as well as stand-out point of sale display.

Alternatively, if you are looking for the ultimate in home entertainment, a Plasma screen is a realistic alternative to a home cinema projector. When used in conjunction with a surround sound system and a DVD player, you'll have the authentic cinema experience.

- ✓ Provides a massive 42" or 50" viewing area
- ✓ 3000:1 contrast ratio ensures a clear picture in all environments
- ✓ Compatible with all PAL, NTSC and SECAM video standards
- ✓ Composite, S-Video, RGB, Audio and component inputs
- ✓ Up to XGA resolution (1366x768)

Description	Prices Ex VAT
Toshiba 42" Plasma Screen 3000:1 Contrast	£3,234
Toshiba 50" Plasma Screen 3000:1 Contrast	£6,382

TOSHIBA MT100 DLP home cinema projector



With its DLP technology, this startup model complements the home cinema segment. The integrated Faroudja DCDi™ videoscanner ensures full colours with a natural look and is capable of displaying quick-edited film material or fast movements in a flicker-free and smooth way.

- ✓ 100 ANSI lumens
- ✓ DLP SVGA resolution
- ✓ Weighs 3.1kg
- ✓ Integrated Faroudja DCDi video processor

Description	Prices Ex VAT
MT100 Combo DLP Projector 1000 ANSI & Surround	£1,225

TOSHIBA MT500 Home cinema fun with the MT500



The MT500 is a midrange device and is the ideal choice for real home cinema enjoyment. The DMD chip ensures excellent black values due to its extraordinarily high contrast ratio of 2,500:1.

- ✓ SVGA resolution
- ✓ Technology: 0.7 DDR DMD-Chip™
- ✓ Brightness: 700 ANSI lumens
- ✓ Lamp durability: up to 2,000 operating hours
- ✓ Contrast ratio: 2,500:1

Description	Prices Ex VAT
MT500 Home Cinema Widescreen DLP Projector, 700 ANSI	£2,499

TOSHIBA TLP-S10 Compact micro portable



The Toshiba TLP-S10 has been designed to be ready to go out of the box. It features one-touch auto set up and an easy-to-use remote control for worry-free, professional presentations.

- ✓ SVGA resolution
- ✓ 1,250 ANSI lumens
- ✓ Compact micro-portable design
- ✓ Only weighs 2.1kg
- ✓ Up to 2,500 hour lamp life

Description	Price Ex VAT
TLP-S10 LCD Projector	£849

TOSHIBA TLP-S40 1,600 lumens home cinema projector



The Toshiba TLP-S40 is a good choice for home cinema use. The projector can be switched to 16:9, and is equipped with automatic keystone correction for optimum image display.

- ✓ Comes in a modern two-colour chassis
- ✓ 1,600 ANSI lumens
- ✓ Contrast Ratio of 400:1
- ✓ Only weighs 2.2 kg
- ✓ SVGA resolution

Description	Price Ex VAT
TLP-S40 LCD Projector	£1,020

WACOM PL-700 Present your subject, not your shadow!



The WACOM PL-700 enables you to deliver professional and flexible training and presentations to your audience – and not to the wall. Developed as the latest alternative to the interactive whiteboard (IWB), the PL-700 is the solution that lets the presenter work directly on the screen whilst maximising audience involvement.

Unlike interactive white boards, the PL-700 allows you to face your audience whilst presenting, so maintaining their eye contact and attention, whilst retaining and even

improving on the flexibility and impact of writing, drawing or annotating directly onto the screen. Also unlike an IWB, you don't have to stand in front of the projector or the image, so your shadow is no longer the main attraction!

- ✓ Very effective presentation solution for the classroom or the boardroom
- ✓ The perfect alternative to the interactive whiteboard, as no shadows are cast and the presenter does not lose eye contact with the audience
- ✓ 17" diagonal SXGA LCD screen and revolutionary display technology for better legibility under all conditions
- ✓ Supports Windows, Macintosh SGI and SUN guaranteeing complete compliance
- ✓ Ergonomic Grip Pen with rubberised grip area for ease of use and handling

Description	Price Ex VAT
PL-700 Interactive Pen Display	£1,399

NEC/MITSUBISHI Plus 93SB



- ✓ 19" (49.8 cm) SuperBright Diamondtron aperture grille CRT
- ✓ Optimum resolution 1280 x 1024
- ✓ Grille pitch 0.25 - 0.27 mm
- ✓ Horizontal frequency 30 - 96 kHz
- ✓ Super Bright Mode (2 levels)
- ✓ Brightness levels up to 300cd/m2
- ✓ Hot key for contrast and brightness

Description	Prices Ex VAT
Diamond Plus 93SB 19" Superbright	
Diamondtron NFT CRT Win/Mac	£179.99
Diamond Plus 930SB 19" Superbright	
Diamondtron NFT CRT Win/Mac	£239.99

NEC/MITSUBISHI Plus 230SB



- ✓ 22" (20"VIS) SuperBright Diamondtron CRT
- ✓ Optimum resolution: 1600x1200@85Hz
- ✓ Grille pitch: 0.24mm
- ✓ Horizontal frequency: 30-115kHz
- ✓ Vertical frequency: 50-160Hz
- ✓ Power requirement: 112W (typ) on mode; <2W off mode
- ✓ Connectors: Mini D-Sub 15-pin

Description	Prices Ex VAT
Diamond Plus 230 22" Super Bright	
Diamondtron NF 1920x1440	£399.99
Diamond Pro 2070U 22" Totally Flat	
1920x1440 (Dual input, USB hub)	£485.99

NEC/MITSUBISHI LCD 1501



- ✓ 15" LCD TFT monitor
- ✓ Resolution: 1024 x 768 at 75 Hz
- ✓ Viewing angle 120° horizontal and 90° vertical (contrast ratio 10:1)
- ✓ Brightness: 250 cd/m2
- ✓ Contrast 350:1
- ✓ Response Time: 30 ms
- ✓ NaViSet™ and NaViSet™ Administrator compatible
- ✓ Connectors: Mini D-Sub 15-pin

Description	Prices Ex VAT
LCD1501 15" LCD TFT	£199.99
LCD1560NX 15" LCD TFT	£229.99
LCD1560 VM 15" LCD TFT	£239.99

NEC/MITSUBISHI LCD 1701



- ✓ 17" LCD with digital and analogue connectivity
- ✓ Resolution 1280x1024
- ✓ D-Sub / DVI-D
- ✓ Height adjustable stand
- ✓ Available in black or white with silver front bezel
- ✓ Non-Touch-Auto-Adjustment
- ✓ NaViSet compatible

Description	Prices Ex VAT
MultiSync LCD 1701 17" LCD	£299.99
MultiSync LCD 1760NX 17" LCD	£325.99
MultiSync LCD 1760VM 17" LCD	£339.99

NEC/MITSUBISHI LCD 1880SX



- ✓ 18" LCD with SuperFine TFT display
- ✓ Resolution 1280 x 1024
- ✓ 170° horizontal viewing angle
- ✓ Brightness: 240cd/m2
- ✓ Contrast ratio: 350:1
- ✓ Response time: 35ms
- ✓ 16.77 mil colours

Description	Prices Ex VAT
MultiSync LCD 1880 SX 18" LCD	£599.99
MultiSync LCD 1920NX 19" LCD	£539.99

NEC/MITSUBISHI LCD 1960NX



- ✓ 19" TFT (PVA)
- ✓ New Slim bezel design (only 20 mm side frame)
- ✓ Resolution: 1280 x 1024 at 75 Hz
- ✓ Viewing Angle: 170° horizontal/170° vertical (at contrast ratio 10:1)
- ✓ Connectors: 1 x Mini D-sub 15 pin; 1 x DVI-D
- ✓ Ergonomics and safety complying to the highest industry standards

Description	Price Ex VAT
MultiSync LCD 1960 NX 19" LCD Black or Beige	£519.99

NEC/MITSUBISHI LCD 2080UX



- ✓ 20" LCD with SuperFine TFT display
- ✓ Resolution 1600 x 1200 at 60 Hz
- ✓ Viewing angle : 176° horizontal and vertical (at contrast ratio 10:1)
- ✓ Brightness: 250 cd/m2
- ✓ Contrast: 350 :1
- ✓ Rapid Response Time : 25 ms
- ✓ MultiSync® soundbar 80 x 2 x 1 W; headphone jack

Description	Prices Ex VAT
MultiSync LCD 2080UX 20" LCD	£1,199

NEC/MITSUBISHI LCD 3000



- ✓ 30" LCD SuperFine TFT display
- ✓ Resolution 1280 x 768
- ✓ Viewing Angle: 170° horizontal and vertical
- ✓ Brightness: 450 cd/m2
- ✓ Contrast: 350 :1
- ✓ Rapid Response Time - 25 ms

Description	Prices Ex VAT
MultiSync LCD 3000 30" LCD Monitor	
1280 x 768 Digital/Analogue Black	£2,399
MultiSync LCD 4000 40" LCD Monitor	
1280 x 768 Digital/Analogue Black	£3,589

ATI RADEON Graphics cards

Advanced 3D graphics and visual quality for high performance applications



With 128MB DDR RAM, flexible dual display support including ADC for Apple flat panels and Mac OS X compatibility, the RADEON 9800 PRO MAC EDITION is the ground-breaking graphics card that will revolutionise the way you see the visual experience.

- ✓ Dual monitor support including ADC for Apple flat panels

- ✓ Operate two digital flat panels simultaneously at resolutions up to 1920 x 1200
- ✓ Powered by the RADEON™ 9800 Pro Graphics Controller
- ✓ Comprehensive Mac OS X and OpenGL support
- ✓ Equipped with 128MB DDR RAM and the RADEON 9800 PRO visual processor.
- ✓ SMARTSHADER technology allows users to experience complex, movie-quality effects
- ✓ SMOOTHVISION technology enhances image quality by eliminating jagged edges and bringing out fine texture detail

Description	Prices Ex VAT
Radeon 9000 Pro Mac Edition 64Mb (AGP) Mac	£131.99
Radeon 8500 Mac Edition 64Mb (AGP) Mac	£134.99
Radeon 7000 Mac Edition 32Mb (AGP) Mac	£94.99
Radeon 9800 Pro Mac Edition 128Mb (AGP) Mac	£299.99



ATI's RADEON Mac range of cards provide outstanding graphics in your 3D applications and computer games

Flash Goes Pro

Macromedia Flash is one of the great Internet technology success stories. From humble beginnings as a cool tool for creating animated graphics, Macromedia Flash quickly emerged as the standard for creative, dynamic and interactive Web content beyond the range of HTML. Today Macromedia Flash is the most pervasive software platform on the planet with more than 515 million installed clients.

The Macromedia Flash MX 2004 product family has three components: Flash MX 2004, Flash MX Professional 2004 and Macromedia Flash Player 7.

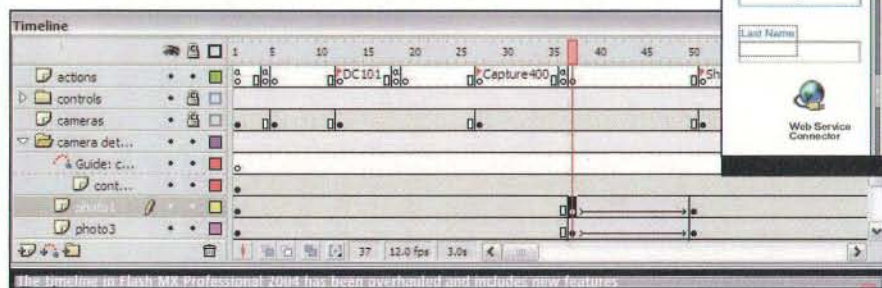
And Flash MX Professional 2004 is the one that has it all, every feature found in Macromedia Flash MX 2004, plus a lot more. It is the top-of-the-line Macromedia Flash development environment for creating data-driven applications, interactive presentations, and high-quality video experiences.

Developers can quickly build effective data-driven applications with forms-based development, powerful data-binding and Microsoft Visual SourceSafe integration. Video professionals can add interactivity and customised interfaces to high-quality video and deliver to the world's most pervasive video client, the Macromedia Flash Player. And all developers can deploy content and applications on devices and mobile phone to reach the widest audience using the device emulators, pre-built templates and sample content.

Macromedia Flash MX Professional 2004 enables developers to organise and build applications using a forms-based metaphor as an alternative to Flash's traditional timeline development. Developers familiar with tools such as Microsoft Visual Basic will find this programming metaphor approachable, giving them the ability to design a form, add components, integrate data and build application logic and navigation.

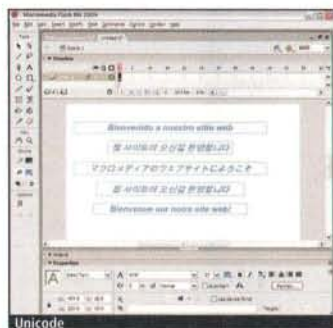


Flash MX Professional 2004 also offers connectivity to server data with robust, scriptable data-binding that supports Simple Object Access Protocol (SOAP) Web services, XML and Flash Remoting. Development teams will benefit from integration with the Microsoft Visual SourceSafe source control system to manage project files.



The timeline in Flash MX Professional 2004 has been overhauled and includes new features

Flash designers and developers will use the video capabilities in Flash MX Professional 2004 to deliver high-quality video with unique interactivity and custom interfaces. Video quality is significantly improved through performance optimisations in Flash Player 7 that allow full frame rate, full-size video and progressive downloads.



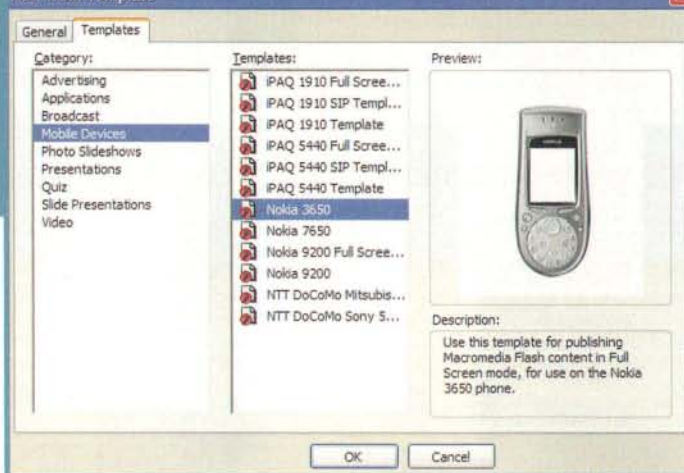
Developers deploying content to mobile phones, PDAs and other device platforms will benefit from the ability of Flash MX Professional 2004 to streamline development and to test content and applications using emulators for targeted devices, such as the NTT DoCoMo i-mode 505i series mobile phones. Device-specific templates, text optimisation, native device sounds and sample content are also available to help developers target this emerging market.

Working with Dreamweaver MX

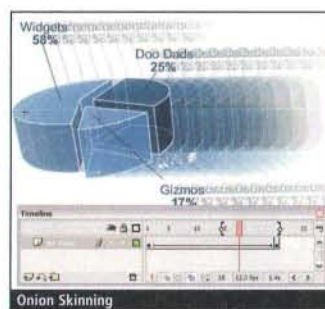
Macromedia Flash and Dreamweaver together provide a complete development solution for creating robust Web sites and rich Internet applications. Dreamweaver offer a robust development environment for integrating Macromedia Flash content with entire Web sites and application logic.

Macromedia Flash developers can create a Macromedia Flash element and encapsulate it with a standard interface, which Dreamweaver users can then drop into a page and customise like any tag.

New from Template



This new integration lets Dreamweaver users add Macromedia Flash to sites and applications without leaving the Dreamweaver workspace. Seamlessly launch and create or edit content in either Macromedia Flash or Dreamweaver; changes are instantly saved and versions are synchronised. ActionScript 2.0 support in Dreamweaver provides a robust code editor for Macromedia Flash developers writing ActionScript within Dreamweaver, with ActionScript colour-coding, code hints and reference materials.



Working with Fireworks MX

Fireworks offers Macromedia Flash developers a roundtrip workflow between your bitmaps production environments and



Macromedia Flash. Although Fireworks exports custom HTML for many popular HTML editors, the tight integration between the two Macromedia tools makes Fireworks ideal for combining optimised bitmap graphics with vector-based Macromedia Flash Web sites.

Top integration features include direct import of native Fireworks PNG files into Macromedia Flash. Vectors, shapes, lines, layers and guides remain editable, and intuitive tools add sophisticated interactive effects and animation. You can also export Macromedia Flash SWF files from Fireworks, or copy and paste Fireworks vectors, and quickly re-purpose graphics by copying and pasting their paths directly into Macromedia Flash.



Studio MX 2004 with Flash Professional

Get everything you need - including the new Macromedia MX 2004 products - in one integrated toolset



NEW!



Macromedia Studio MX 2004 with Flash Professional provides professional functionality for every aspect of Web development, all in one integrated package. Developers can build Web sites and applications with Dreamweaver, create interactive content with Flash, generate Web graphics with Fireworks, and incorporate vector graphics with FreeHand.

Studio MX's deeper cross-product integration offers an even more streamlined workflow at each stage of the development process, from creating graphics and laying out HTML pages to coding application logic and assembling complete Web sites and solutions. Studio MX 2004 with Flash Professional is perfect for developers delivering rich interactive applications. With these industry-leading programs, you can streamline Web development with an integrated tool set.

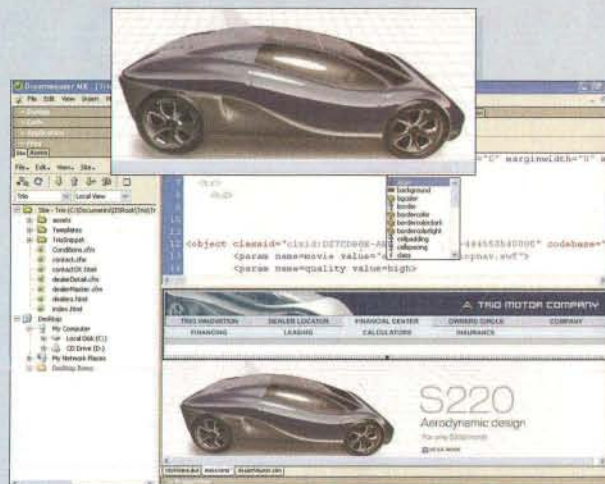
Studio MX 2004 with Flash Professional includes:

- Dreamweaver MX 2004
- Flash MX Professional 2004
- Fireworks MX 2004
- FreeHand MX
- ColdFusion MX 6.1 Developer Edition (Windows only)

Powerful Features

- Create sophisticated, professional sites with rich Cascading Style Sheets (CSS) support in Dreamweaver. Design and render complicated CSS-based layouts and designs easily and accurately. Build cutting-edge, flexible layouts entirely in CSS and speed development with tools that let you edit quickly, select styles easily, and control page-wide properties precisely

- Capture attention and improve user experiences with interactive content. Create UI and graphic elements or import content from file formats such as EPS and PDF by using the rich text and design tools in Flash. Animate elements with timeline and transformation tools, and then attach logic and programmatic control with ActionScript 2.0
- Develop sites quickly with professional-quality templates and pre-built components. Create everything from Web graphics to entire sites and applications with drag-and-drop visual tools and components
- Embrace standards and accelerate next-generation development with XML, Web services, XHTML, CSS2, ColdFusion, JSP, .NET, and ECMAScript. Dreamweaver supports ColdFusion, JSP, PHP, ASP.NET, and other application server technologies
- Seamless cross-product integration: Integration across the Studio MX 2004 applications enables more efficient development of rich Web sites and applications
- Integrate design and development using all products in the tool set. Import Macromedia Flash files into Dreamweaver, and preview the content within Dreamweaver. Create, edit and animate graphics and menus in Fireworks, and then seamlessly export them to Dreamweaver
- Streamline workflow through seamless launch-and-edit capabilities shared across the suite. Easily update bitmaps embedded in Macromedia Flash with Roundtrip editing in Fireworks. Fireworks signature Roundtrip support handles Dreamweaver-generated and hand-coded server-side code, as well as nested tables
- Add rich interactivity to pages with Macromedia Flash elements, which can be configured within Dreamweaver. Drop a Macromedia Flash element onto a page and customise it like any tag
- Manage files more effectively across applications with shared sites, Check-In/Check-Out, and file transfer
- Intuitive, customisable workspace: The Studio MX 2004 workspace reduces design and development complexity. Consistent user interface elements help



Work in a familiar, customisable environment that's easy to learn, offers a seamless workflow, and provides building blocks for rapid development

- you work more efficiently when using multiple Macromedia Studio applications
- Locate commands and controls more quickly with the accessible and logically arranged user interface, which maximises usable workspace and shows context and focus more clearly. Make educated design decisions quickly with in-menu visual previews of text styles, gradients, patterns and more across applications
- Increase efficiency with the Start page, available in all MX 2004 applications. Quickly open recently used files, create new files, or access tutorials from this page, which appears when no document is open
- Move quickly among applications, thanks to common user interface elements such as site definitions, panel management, tabs over multiple open documents, coding and visual preview metaphors, and a common Property inspector
- Leverage full Unicode support to use, render, and save any font and encoding supported by the operating system, including double-byte character sets, across all MX 2004 applications
- Applications and Data: Build rich Internet applications with a familiar forms-based development environment and powerful data binding
- High Quality Video: Deliver high-quality video with new professional video capabilities
- Mobile and Device Development: Produce and test content for devices and mobile phones with device templates and emulators
- Enjoy a smoother workflow with Fireworks' signature Roundtrip support. It now handles server-side code - both Dreamweaver-generated and hand-coded - as well as nested tables.

Studio MX 2004

Studio MX 2004 offers everything that Studio MX 2004 with Flash Professional offers, except it includes Flash MX 2004 Standard instead of Flash MX Professional 2004. Flash MX 2004 Standard has many of the same features as Professional, including:

- Templates and pre-built components get you up and running in no time
- Shape Distort Modifier allows you to create vector-based effects for faster download
- Free Transform Tool to improve your creative flexibility & productivity
- Video Support for creation of distinctive rich content and applications

Flash MX Professional 2004

The top-of-the-line development environment for advanced content and applications



NEW!



Macromedia Flash MX Professional 2004 provides everything you need to create and deploy rich content and powerful applications! Whether you are designing motion graphics or building data-driven applications, Flash MX has the tools you need to produce great results and deliver the best user experiences across multiple platforms and devices.

Flash MX Professional's advanced functionality lets you create more sophisticated interactive content, rich Internet applications, professional quality video and easy deployment to devices.

Developers familiar with tools such as Microsoft Visual Basic will find this programming metaphor approachable, giving them the ability to design a form, add components, integrate data and build application logic and navigation.

Application Development

- Build applications with a familiar forms-based development environment
- Create sophisticated interactivity with ActionScript 2.0
- Connect to data with robust, scriptable data-binding
- Coordinate team projects

Video

- Deliver to the widest possible audience with Flash Player
- Add interactivity and unique branding
- Create Flash video directly from leading professional video editing tools
- High performance: faster frame-rate, large format experiences

- Enhance video playback on desktop platforms by nearly 200% with the improved Macromedia Flash Player 7, which delivers full-resolution, full-frame-rate, high-colour-fidelity video. Consistently display 30/25/24 frames per second at various frame resolutions

Advanced Content

- Create corporate presentations and interactive marketing content quickly and easily
 - Enrich e-learning experiences with video and advanced application support
- ## Mobile and Devices
- Deliver rich consumer experiences on devices
 - Streamline development by using emulators to preview content and test performance

- Accelerate development with convenient device-specific templates, native device sounds and more

Flash MX 2004 Standard

Flash MX 2004 Standard is also available, with many of the same features as Professional, including:

- Templates and pre-built components get you up and running in no time
- Shape Distort Modifier allows you to create vector-based effects for faster download
- Free Transform Tool to improve your creative flexibility & productivity
- Video Support for creation of distinctive rich content and applications

Description	Price Ex VAT
Flash MX 2004 Mac/Win	£419.99
Flash MX 2004 Upgrade (from 5.X or MX) Mac/Win	£169.99
Flash MX Professional 2004 Mac/Win	£579.99
Flash MX Professional 2004 Upgrade (from 5.X or MX) Mac/Win	£249.99

macromedia

Dreamweaver MX 2004

The professional choice for building Web sites and applications

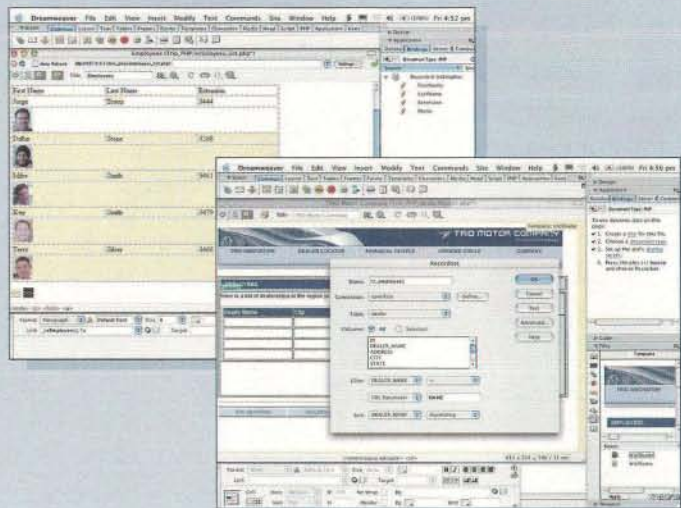


NEW!



From leading support for CSS-based design to hand-coding features, Dreamweaver provides the tools professionals need in an integrated streamlined environment. Developers can use Dreamweaver with the server technology of their choice to build powerful Internet applications that connect users to databases, Web services and legacy systems.

- ✓ Dive right into source code or manipulate pixel-perfect designs in Design view
- ✓ Embrace CSS for site-wide design structure
- ✓ Enjoy painless cross-browser development
- ✓ New robust more reliable FTP client
- ✓ Copy and paste from Microsoft® Word and Excel documents directly into Dreamweaver MX 2004



Build the site you want, the way you want it using the visual layout tools of Dreamweaver MX 2004, combined with the code-editing tools of HomeSite

Description

Prices Ex VAT

Dreamweaver MX 2004 Mac/Win	£339.99
Dreamweaver MX 2004 Upgrade Mac/Win	£169.99

macromedia

Fireworks MX 2004

The complete solution for creating, optimising and exporting interactive Web graphics

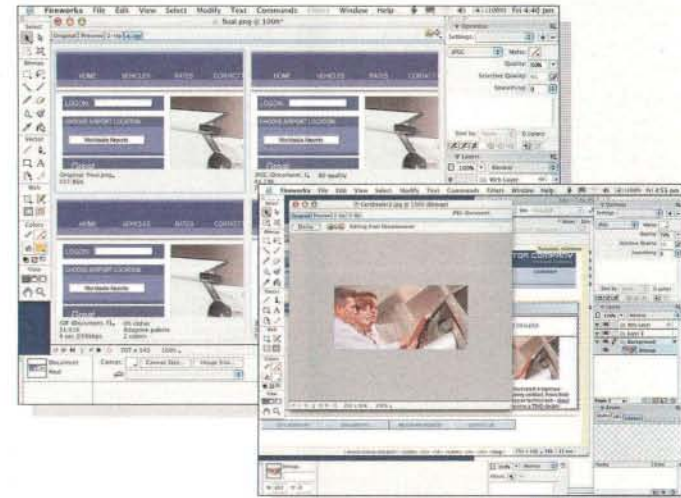


NEW!



streamlined user interface increase your productivity. New bitmap and vector based tools give you more creative options and help you expand your range. In addition, complete Unicode support lets users develop content in any language.

- ✓ Take creative control with seamless vector and bitmap editing
- ✓ Produce highly optimised files that still look great
- ✓ Re-engineered to perform as much as 85% faster
- ✓ Collaborate with a team using the Check-In/Check-Out function
- ✓ Add depth to illustrations with Contour Gradients
- ✓ Touch up photos with Replace Colour and Red Eye Removal tools.



Fireworks MX 2004 has all the familiar tools you need – robust bitmap editing, precise text control, and a complete professional tool set for rapid production and easy updates

Fireworks MX 2004 is the complete solution for creating, optimising and exporting interactive Web graphics. Whether you're a Web developer who maintains and edits graphics or a designer who demands professional creative control, Fireworks gives you the tools you need.

Tighter integration with Macromedia Flash MX, Macromedia Dreamweaver MX, and Macromedia FreeHand MX makes cross-product work even smoother. A supercharged graphics engine and a

Description

Prices Ex VAT

Fireworks MX 2004 Mac/Win	£249.99
Fireworks MX 2004 Upgrade Mac/Win	£129.99

macromedia

Contribute 2

Now anyone can easily update content on existing Web sites

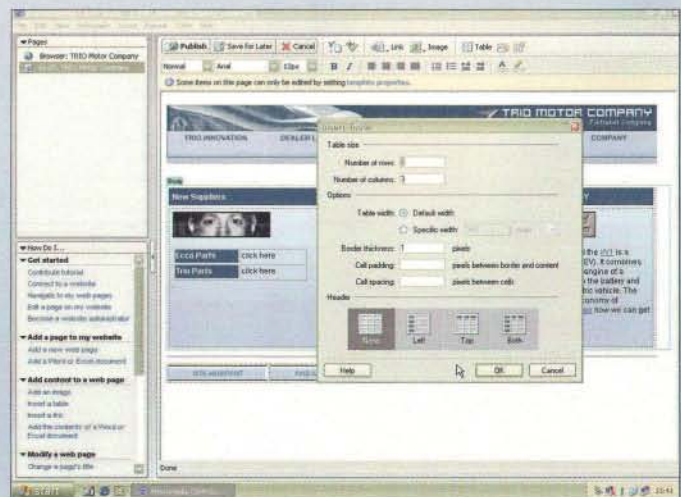


NEW!



site, including Macromedia Dreamweaver, Microsoft FrontPage and hand-coded sites. Contribute also works seamlessly with Dreamweaver MX and supports Dreamweaver templates, so Web professionals can quickly integrate Contribute into their existing workflow.

- ✓ Save time by delegating content updates
- ✓ Maintain control of your Web site's style and layout
- ✓ Improve the security of your site connections
- ✓ Protect your HTML code, script and server functionality
- ✓ Empower non-technical contributors without any training needed
- ✓ Manage user permissions to prevent unauthorised edits
- ✓ Protect against inadvertent changes with file versioning



Get professional results without needing Web design experience, with Macromedia's Contribute

Description

Price Ex VAT

Contribute 2 Mac/Win	£69.99
Contribute 2 5-Pack Mac/Win	£349.99



Director MX

Combine any media, deliver anywhere – and reach everyone!

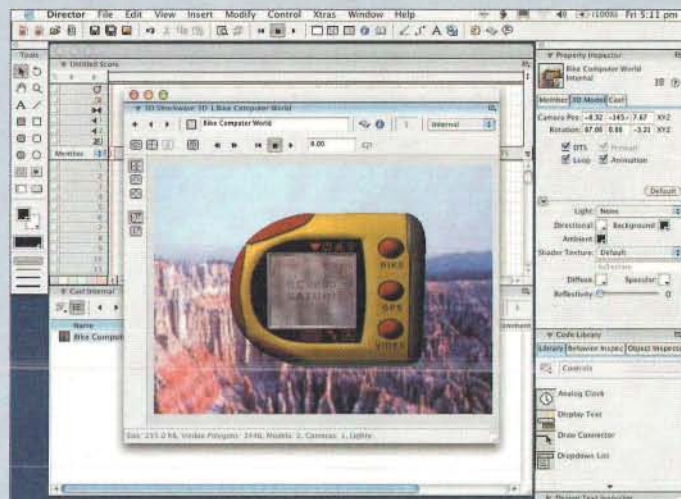


Combine any media, deliver anywhere, and reach everyone with Director MX, the powerful multimedia-authoring solution. With Director, you can build rich, accessible content that delivers real results. Integrate interactive audio, video, bitmaps, vectors, text, fonts and more to create stunning work. Work more effectively within the familiar Macromedia MX user interface and take advantage of

unprecedented Macromedia Flash MX integration.

- ✓ Integrate multiple media types for compelling results
- ✓ Incorporate interactive 2D and 3D animation
- ✓ Author once and deploy royalty-free to multiple environments
- ✓ Reach more people by making applications accessible to all users
- ✓ Tight integration with Flash MX
- ✓ RealMedia can be fully integrated into Director audio and video rendering
- ✓ Provide the best user experience for CD/DVD-ROM content
- ✓ Use long-form video and existing video libraries to save time

Description	Prices Ex VAT
Director MX Mac	£959.99
Director MX Win	£959.99
Director MX Upgrade (from 8, 8.5) Mac	£319.99
Director MX Upgrade (from 8, 8.5) Win	£319.99



Combine any media and deliver content anywhere, both on- and offline with Director MX



eLearning Suite

The complete authoring solution for on-line learning



Get the complete authoring solution for on-line learning. Macromedia Authorware 7, Macromedia Flash MX, and Dreamweaver MX together address the full range of learning application and delivery requirements, from text-and-graphics tutorials to training simulations with audio, animation and video.

Incorporate the full range of rich media through direct support for Macromedia Flash, QuickTime, AVI, MP3, WAVE and most other common digital video and audio formats. Support for graphics with alpha channel, anti-aliased text and an extremely broad range of media formats makes Macromedia Authorware the premiere

software for authoring rich media learning content.

- ✓ Assemble Flash, Authorware or other Web media into your Web pages
- ✓ Create HTML-based learning content and learning sites
- ✓ Deploy to CD-ROM, LANs, intranets and Web
- ✓ Leverage robust training features such as built-in interactivity and student tracking
- ✓ Create rich-media learning applications incorporating nearly any media type
- ✓ Reduce Server Load via Flash MX content creation
- ✓ Sophisticated ActionScript Tools to give you complete control
- ✓ Supports ColdFusion, ASP, ASP.NET, JSP and PHP

Description	Prices Ex VAT
eLearning Suite Win	£2,499



Authorware 7

The solution for Rich-Media e-learning content!



Whether you're a developer, instructional designer or subject matter expert, use Authorware to create engaging e-learning applications and deploy them across corporate networks, CD-ROM and the Web.

Author courses quickly and easily using drag-and-drop icons to integrate PowerPoint files, graphics, animation, video and sound into a media-rich learning experience. Incorporate pre-built learning features, including questions, quizzes, course frameworks and 11 different built-in interactions to bring your e-learning applications to life. Built-in data tracking facilitates the recording of student results.

Authorware complies with learning industry specifications.

With Authorware 7, you can implement company-wide computer-based training for your sales staff, develop interactive lessons for trainers, or create instructional CDs – and more.

- ✓ Take advantage of time-saving features to create and publish e-learning
- ✓ Support for XML, accessibility and learning management systems
- ✓ Create rich-media e-learning applications that are compatible with LMS standards
- ✓ Use popular programs and technologies
- ✓ Robust scripting allows you to develop a broad range of e-learning applications

Description	Prices Ex VAT
Authorware 7 Win	£2,079
Authorware 7 Upg (from 6.5) Win	£289.99



JRun 4

The fast, affordable and reliable J2EE compatible application server



With Macromedia JRun 4, you can dramatically reduce the cost of your J2EE infrastructure. Macromedia JRun 4 provides the speed and reliability required to deploy and manage your standards-based Internet applications.

Loaded with features for accelerated deployment and powerful scalability, JRun 4 is an elegantly architected, Web-services enabled, approachable platform with full Java 2 Enterprise Edition (J2EE)

compatibility. Currently used in production at over 10,000 companies worldwide, JRun is the proven solution for reducing the time and cost associated with developing and deploying applications.

JRun 4 delivers commercial grade quality at a fraction of the cost of the alternatives. With its no-hassle installation, hot auto deploy, multi-tier clustering and full Web services support, JRun 4 includes all the extras you need to quickly and effectively deliver results. JRun is in production at over 10,000 companies worldwide and powers hundreds of ISV applications.

JRun 4 implements the complete J2EE platform specification, including Java Server Pages, Java Servlets, Enterprise JavaBeans, Java Message Services and other Java and Web services APIs.

Certified J2EE 1.3-compatible
JRun 4 is certified J2EE 1.3-compatible,

implementing the latest standards support for the complete Java 2 platform APIs.

Advanced EJB 2.0 support:
The JRun 4 EJB container has been rearchitected to provide superior support for the new EJB 2.0 features, including local interfaces, message-driven beans, EJB-QL and Container Managed Persistence (CMP) 2.0.

Web services integration
Building Web services in JRun 4 is as simple as editing a deployment descriptor to expose your regular Java classes or Enterprise JavaBeans as Web services. Consuming Web services is equally easy: JRun 4 automatically generates Java proxies for Web services based on their WSDL files. JRun 4 has integrated support for open Web services protocols such as SOAP, WSDL and UDDI.

In addition to the core J2EE services, JRun 4 includes features to simplify and speed the development and deployment process. Using the power of the new JRun 4 development and deployment features, you can deliver your applications faster in a non-stop server environment.

Auto deployment

Deploying an application is as simple as copying an EAR, JAR, WAR or RAR file to the server directory. JRun 4 automatically senses the new file, deploys it, and makes it available in the target server: there's no need to restart the server.

- ✓ JRun 4 implements the complete J2EE platform specification
- ✓ Integrates with your favorite Java IDE to help you work faster
- ✓ Delivers everything you need to deliver J2EE-compatible applications on time and on budget
- ✓ Uses a breakthrough Jini technology-based peer-to-peer approach for server clustering
- ✓ Built on an elegant JMX service-oriented architecture
- ✓ JRun 4 provides native connectivity to Macromedia Flash MX, enabling easy, efficient data exchange with Macromedia Flash clients

Description	Prices Ex VAT
JRun Server 4	£749.99
JRun Server 4 Upgrade	£419.99

Adobe GoLive 6 CS

Perfectly integrated, powerful tools - Web design has never been this intuitive



Adobe GoLive CS software is a powerful package that delivers what you need to create professional Web sites - you won't believe the power at your fingertips!

GoLive 6.0 is the cornerstone of network publishing solutions for Web and cross-media professionals. GoLive offers tools for anyone from the designer to the hand coder who need to create, manage and deliver personalised content for Web sites and wireless devices.

The versatile toolset streamlines your team's workflow by bringing together Web authoring, dynamic publishing and site/file management so that designers and developers can vastly improve team collaboration and deliver Web projects in less time, with less effort.

New features and enhancements in GoLive

Customisable user interface
Select, arrange, and stash
updated toolbars and palettes
including the new
Objects Palette
and Colour
Palette to
increase your
productivity.



GoLive 6.0 deliver creative options and streamline the production process for Web designs that bridge the gap from print to Web to wireless without complicated recoding or redesigning. The visual and dynamic authoring environment makes it easier to build media-rich and personalised Web sites that easily integrate assets created in Adobe Photoshop, Illustrator and LiveMotion.

GoLive 6.0 sheds hours off of the production process with a new site management and collaboration tool, the Adobe Web Workgroup Server. Available only with GoLive 6.0, the Web Workgroup Server software allows teams to easily share and manage files and track changes across sites. With the Web Workgroup Server there is no need to purchase additional site management software.



Smart objects: Open, edit, and place Photoshop, Illustrator, and Adobe PDF files within the GoLive environment.

Design and Develop

Moving between multiple applications can cause unnecessary frustrations and delays. Working within the familiar Adobe interface, GoLive 6.0 helps Web professionals move swiftly from concept to deployment. Unlike other authoring and site management tools, GoLive unifies information architecture, dynamic-content authoring and project collaboration, resulting in the delivery of cost-effective Web sites and wireless applications.

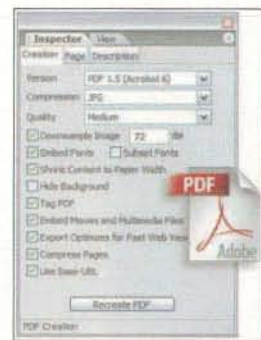
Work with Adobe Photoshop, Adobe Illustrator and Adobe Portable Document Format (PDF) files directly within GoLive without switching between applications. Share Adobe InDesign files for true cross-media publishing across multiple devices.

Features:

- ✓ Smart Objects - Open, edit and place Adobe Photoshop, Illustrator, and Adobe PDF files within the GoLive environment
- ✓ InDesign Package for GoLive - Use

XML to transfer a print publication's text and image assets to GoLive

- ✓ Advanced Adobe PDF integration - Create, view and add links to Adobe PDF files directly within the GoLive environment
- ✓ Visual layout grid - Create, edit and refine sophisticated tables with pixel-level precision in a familiar drag-and-drop environment
- ✓ Visual CSS authoring - True visual CSS Level 1 and Level 2 authoring and previewing provide real-time style rendering and feedback
- ✓ Information architecture tools - Plan out your site architecture, deployed technologies and content structure with powerful diagramming capabilities
- ✓ User-customisable workspace - Select, arrange and stash updated toolbars and palettes - including the new Objects palette and Colour palette - to match your individual workflow
- ✓ Multiple source code views - Work with source code in five different views: Layout and Source mode split view, Source mode, Outline mode, Outline and Source mode split view, and the Source palette
- ✓ XML editing and validation - Author and inspect XML using Layout, Source and Outline editors with validation
- ✓ Integrated team collaboration - Collaborate with a team over FTP, HTTP(S) and WebDAV
- ✓ Shared colour management - Achieve consistent colour with the common Adobe Colour Engine
- ✓ Object Toolbar - With the click of a button, transform the Object Toolbar from a Photoshop-style orientation to a familiar GoLive-style orientation
- ✓ Adobe PDF design reviews - Quickly convert your Web designs into Adobe PDF files so they can be distributed for team review or stakeholder approval
- ✓ Prebuilt page designs - Choose from 58 professionally designed templates ideal for image gallery designs, editorial layouts, Web-based forms and business and e-commerce sites
- ✓ Object Toolbar - With the click of a button, transform the Object Toolbar from a Photoshop style orientation to a familiar GoLive style orientation



Advanced PDF integration: Create, view, and add links to Adobe PDF files directly within the GoLive environment.

- ✓ Source code completion - Syntax-aware extensible source code completion allows you to quickly work with tags, attributes and methods based on blocks of syntax, such as PHP, JavaScript, XHTML, CSS, SVG and SMIL
- ✓ GoLive Co-Author code - Allow content contributors to update and maintain content within an access-controlled Co-Author interface (separate GoLive Co-Author software license required)

Complementary Products

Creative Suite..... p.39
Save on the cost of GoLive, Illustrator, Photoshop, InDesign, and Acrobat!

Flash MX 2004 p.25
Create Rich media content for your GoLive Web site

Suitcase X1..... p.41
Manage your fonts with the leading font tool from Extensis

cleaner XL..... p.19
cleaner XL is the ideal way to prepare your media files for streaming over the Internet

Description	Prices Ex VAT
GoLive CS Mac	£334.99
GoLive CS Win	£334.99
GoLive CS Upgrade Mac	£139.99
GoLive CS Upgrade Win	£139.99

macromedia ColdFusion MX 6.1

The solution for rapidly building and deploying powerful Web applications and services



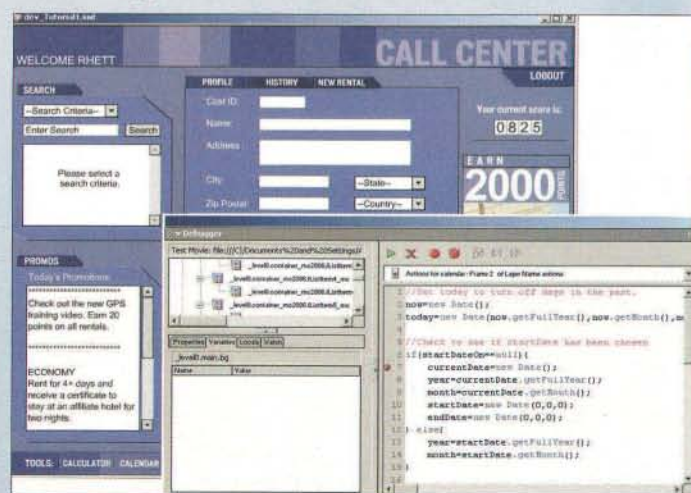
ColdFusion MX is the Macromedia MX solution for rapidly building and deploying powerful Web applications and Web services. Using the proven tag-based scripting and built-in services in ColdFusion MX, Web application developers can easily harness the power of the Java platform without the complexity.

Available for standalone installation or for deployment on industry leading J2EE application servers, ColdFusion MX enables over 10,000 customers and hundreds of

thousands of developers worldwide to deliver powerful Web applications in record time. ColdFusion is one of the most popular Web development technologies on the Internet - at use in more than 75 of the Fortune 100, and providing the power behind over 18 million pages on the public Internet.

- ✓ Powerful Internet capabilities within an easy-to-learn & highly productive server scripting environment
- ✓ Intuitive tag-based language that requires fewer lines of code
- ✓ Innovative architecture brings the scalability, reliability & power of the J2EE platform to Web scripting
- ✓ Connect to virtually any database or directory server with high-performance Type IV JDBC drivers and LDAP support

Description	Prices Ex VAT
ColdFusion MX Standard	£929.99
ColdFusion MX Enterprise (2 CPUs)	£4,289



Invoke Web services from your applications with a single line of code



Flash Communications Server MX 1.5

Uniting communications and applications



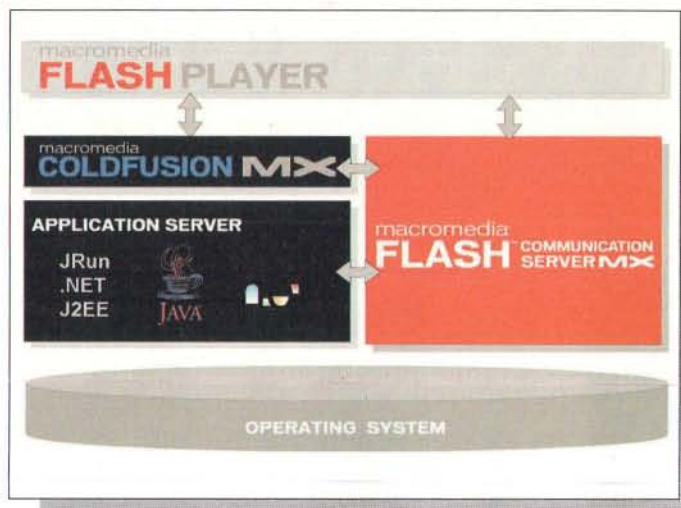
Macromedia Flash Communications Server MX allows you to develop the next generation of on-line communications: Deliver multi-way audio, video and real-time data in your Web sites and Rich Internet Applications. Create engaging pre-sales applications that integrate audio, video, text, chat and enterprise data.

Develop powerful corporate presentations with streaming video and synchronised

multimedia content that are deployed seamlessly within the context and branding of your site. Or build collaborative meeting applications that bring people together in real-time - connecting them to each other, to live data sources, and to back-end services for a significantly more compelling online experience.

- ✓ Create and deploy powerful new communications functionality
- ✓ Add interactive functionality, including video and data broadcasts
- ✓ Deliver engaging real-time streamed media
- ✓ Tap into multi-way, multi-user communications for rich media messaging
- ✓ Ensure the broadest reach for your work by deploying to Flash Player
- ✓ Develop rich communications easily by leveraging existing skills and toolsets

Description	Prices Ex VAT
Flash Communication Server MX 1.5 Personal Edition	£369.99
Flash Communication Server MX 1.5 Personal Edition Upgrade	£79.99
Flash Communication Server MX 1.5 Pro	£3,299



Provide the best-possible interactive rich media experiences on the Internet by seamlessly integrating audio and video applications directly into your Web site with unprecedented levels of interactivity



Flash Remoting MX

The gateway to data driven Flash content



Macromedia Flash Remoting MX provides the connection between Macromedia Flash and your Web application server, making it fast and easy to create Rich Internet Applications.

With its powerful yet simple programming model, you can easily integrate rich Macromedia Flash content with applications built using Macromedia ColdFusion MX, Microsoft .NET, Java and SOAP-based Web services. Flash Remoting MX for Microsoft

.NET is a pure .NET implementation that runs as 100% managed code exploiting the benefits of .NET, and providing optimal performance, functionality and security. Flash Remoting MX for Java is a 100% pure Java solution that can be deployed as WAR or EAR files on compliant Java application servers.

Seamlessly access any remote service that accepts or returns XML documents. Flash Remoting MX parses and translates ActionScript XML objects on the server into an org.w3c.xml DOM, making any remote service (such as CFCs, paggers, EJBs, Java classes, and Microsoft .NET DLLs) that accepts or returns XML documents - or both - seamlessly accessible to Macromedia Flash. Developers who are currently using SOAP for custom XML documents can now easily expose them to Macromedia Flash clients in a simple model, eliminating the development of server-side parsing previously required when passing an XML stream from Macromedia Flash.

- ✓ Access Web application services, XML documents and Web services quickly and easily
- ✓ Access SOAP-based Web services directly from Macromedia Flash
- ✓ Expose well-defined application APIs to Macromedia Flash as simple ActionScript APIs
- ✓ NetConnection Debugger streamlines testing and debugging of the most complex applications
- ✓ Parse and translate ActionScript XML objects on the server into an org.w3c.xml DOM
- ✓ Use new Flash Remoting MX APIs for recordset handling and databinding

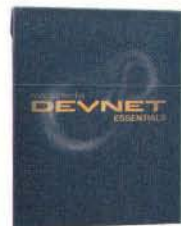


Access Web application services, XML documents and Web services quickly and easily using powerful new Macromedia Flash Remoting MX ActionScript commands



DevNet

The premium software service for Macromedia developers

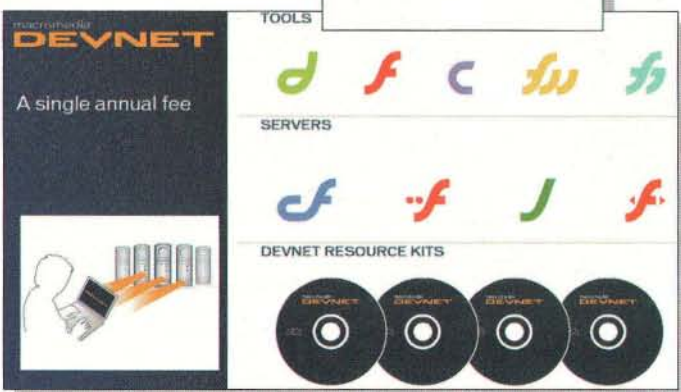


As a developer today, you're expected to do more - build more applications, integrate with a broader range of technologies, design interfaces and back-end architectures - with fewer resources and less time to get it all done. Now Macromedia DevNet Subscriptions gives you the latest development software, Macromedia servers, and productivity-enhancing resources, conveniently delivered

online and on CD - and all for a single annual fee. With a DevNet Subscription, you get more - more power, more time, more resources - for less money and administrative hassle, so you can focus on creating and delivering exceptional digital experiences.

- ✓ Development-only licensed versions of every server on every platform that Macromedia sells
- ✓ Immediate access to download new versions as soon as they are available
- ✓ Quarterly releases of DevNet Resource Kits (DRKs)
- ✓ Everything available immediately on-line from the Your Subscription page
- ✓ One annual fee, with upgrade costs built-in

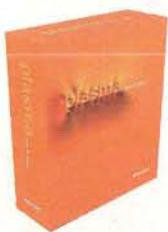
Description	Prices Ex VAT
Developer Network Essentials Subscription Mac/Win	£229.99
Developer Network Professional Subscription Mac/Win	£1,129



DevNet Professional gives you immediate access to products, upgrades and developer resources

discreet plasma 1

Professional 3D content for the Web

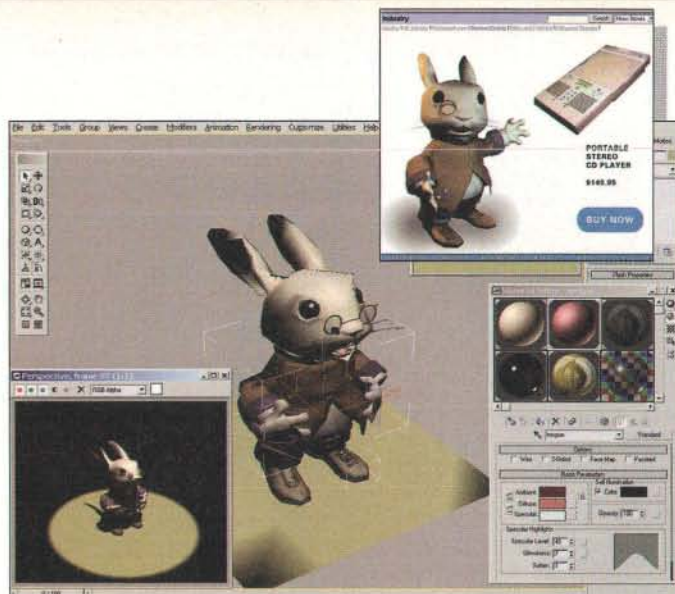


Plasma houses the most comprehensive Web rendering and exporting tools available in any 3D software package. In particular, plasma offers impressive integration with design standards such as Macromedia Flash and Macromedia Shockwave 3D.

Built specifically to provide 3D tools for 2D artists, plasma makes the creation of 2D and 3D UI and Web elements easier than ever before. plasma supplies Web designers with an easy to use 3D solution that houses the most stable, focused and optimised toolkit for bringing engaging 3D UI elements and media to the Web.

- ✓ plasma's renderer is based upon the 3D Studio Max render engine
- ✓ Drag & Drop 3D gives you a more intuitive way-in to 3D design
- ✓ "Modifier Stack" Technology keeps track of your steps
- ✓ Approachable user interface makes it easier and simpler to use
- ✓ Streamlined Design Interface allows for fast Web content creation
- ✓ Feature set is designed to address the specific needs of the Web 3D market
- ✓ Shorter learning curve than traditional 3D software
- ✓ Parametric objects set you on the right track for 3D modelling
- ✓ Specific optimisations to output 3D content for online use

Description	Price Ex VAT
Plasma 1 Win	£469.99



Built specifically to provide 3D tools for 2D artists, plasma is the essential 3D Web solution

REALVIZ SceneWe@ver

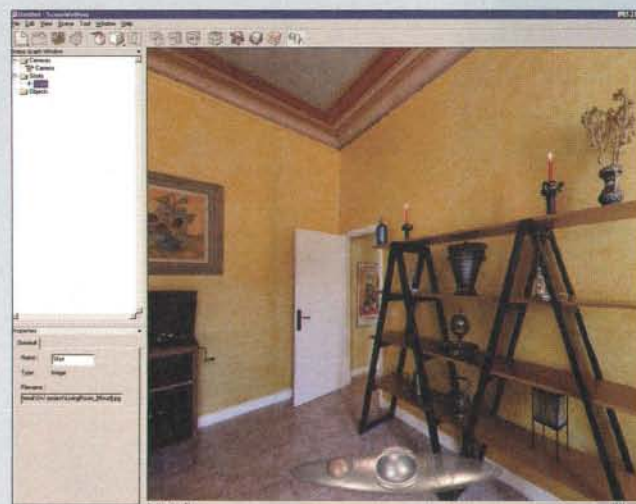
The best way to build 3D environments



REALVIZ SceneWe@ver is the way to integrate 3D objects into pictures or panoramic images. By combining the beauty of photos with the interactivity of Web 3D, this innovative software brings a whole new dimension to your multimedia projects. Create realistic true 3D environments from photographs or panoramas, import 3D models and place them in 3D space for fast content assembly.

Deliver interactive results quickly using a library of pre-defined behaviours in Macromedia Shockwave. Automatically extract textures from any facing background component.

- ✓ Create true 3D environments from photographs and panoramas quickly
- ✓ Automatic object placement and collision detection takes the guesswork out of building life like scenes
- ✓ Interactive behaviour library for Macromedia Director gets you up and running in no time
- ✓ Use object primitives for simple 3D creation
- ✓ For super fast layouts, use the powerful stack toolset
- ✓ Vertical Polygon tool for quick mask creation
- ✓ Automatic texture extraction from any background to add extra depth even faster
- ✓ Import formats: REALVIZ ImageModeler 3 (.rzi), Cineon Files (.cin), JPEG (.jpg: .jpeg), Maya Image Files (.iff: .tdi), Portable Network Graphics (.png Portable), Alias Wavefront OBJ (.obj) and many more!

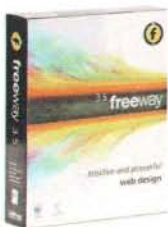


Deliver interactive results quickly using a library of pre-defined behaviours in Macromedia Shockwave

Description	Price Ex VAT
SceneWe@ver 1 Mac/Win	£349.99

softpress Freeway 3.5 Pro

Now anyone can create a professional Web site



Freeway is the powerful and easy-to-use Web-authoring tool for the Mac. Unlike other tools, Freeway does the "heavy lifting" by writing the code automatically, so you don't need to be an HTML expert to create exciting and effective Web sites.

Whether you are an HTML Pro, a designer with traditional training or a novice to the exciting world of the Web - Freeway's integrated design environment makes life easy offering you advanced functionality

blended with a superbly accessible user interface. Freeway requires Mac OS 9 or Mac OS X.

- ✓ DTP-style control of layout and type
- ✓ Freeway 3.5 now runs natively in Mac OS X
- ✓ Cascading Style Sheets provide real typographic control over HTML text
- ✓ The Colours and Type styles palettes have been merged
- ✓ Boosted speed enhancements and basic scripting capabilities
- ✓ A familiar "Page and Pasteboard" environment and a rich set of DTP-style tools
- ✓ Supports Apple's WorldScript
- ✓ Optimise graphics within Freeway
- ✓ Directly import Adobe Illustrator and Photoshop files into Freeway

Description	Prices Ex VAT
FreeWay 3.5 Pro	£165.99
FreeWay 3.5 Pro Competitive Upgrade	£99.99

softpress Freeway Express

The ONLY low cost Web editor for OS X



Freeway Express gives you the speed, power and design flexibility of Freeway Pro, at a price that makes it perfect for hobbyists, students or Web beginners.

Freeway Express brings the same approach to Web design as the award-winning professional tool, Freeway Pro. This means you can start building your site with an idea, not a list of "can't do that in HTML" restrictions, and you'll see your results immediately. In action, Freeway Express handles like a desktop publishing or

"Works" application. You draw - or simply drag and drop - pictures, text, graphic headlines and rich media right onto the page.

- ✓ Use Cascading Style Sheets for ultimate control over HTML text
- ✓ Use HTML 4 Layers for sophisticated layouts and effects
- ✓ Import TIFF, native Photoshop and Illustrator files (and PDF graphics on Mac OS X)
- ✓ Use PostScript Type 1 and OpenType fonts in addition to TrueType
- ✓ Use custom Actions (and write your own) to automate your designs and extend Freeway
- ✓ Built-in spell checking and hyphenation in 14 languages
- ✓ Use Freeway Express on either Mac OS X or Mac OS 9
- ✓ Includes a "smart" upload feature

Description	Price Ex VAT
FreeWay Express	£59.99

TOON BOOM Studio Express

An entry level animation software package that could blow your mind



Easy-to-use, Toon Boom Studio Express, the value-priced solution, is a must-have animation tool for all your creative projects. Toon Boom Studio Express targets creative professionals as well as hobbyists of all ages and runs on both Windows and Mac.

Use it to create great animations for your corporate and personal Web sites; Flash banner ads, interactive projects and games; videos, PDAs and phones; and anywhere else you want to add eye-catching animations!

Toon Boom Studio Express can be upgraded to Toon Boom Studio to enjoy more creative freedom and more powerful functionalities.

- ✓ Add depth and lip sync to your cartoons
- ✓ Make your own interactive games!
- ✓ Create rich media for Web sites and Emails
- ✓ Animate instant messages
- ✓ Design animated invitations and announcements
- ✓ Create stunning animations
- ✓ Add animations to photos and videos
- ✓ Import media from movies, photo collections, or from leading software packages (SWF, AI, PSD, JPEG, TGA & GIF)

Description	Price Ex VAT
Toon Boom Studio Express	£99.99
Toon Boom Studio Upgrade to Studio	£149.99



Toon Boom Studio's Sound Editor provides precise control over event and stream sounds

COREL XMetaL 4

Corel's leading XML content creation suite

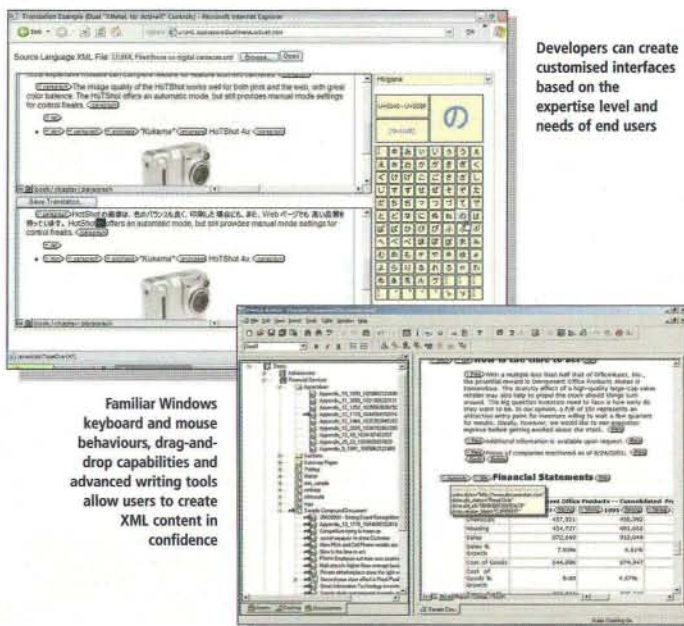


Corel XMetaL 4 looks and acts like a word processor, making it simple enough for anyone across their organisation to use. Familiar Windows key and mouse behaviours, drag-and-drop capabilities and advanced writing tools let your customers create XML content with confidence. Developers can also create customised interfaces based on the documents your clients need and the expertise of their users.

Corel XMetaL for ActiveX is a customisable XML authoring control that can be embedded into any Web-page or Windows application. Drag & Drop functionality internally and between applications increases productivity for your clients and revision marking improves the review process of what is being published.

- ✓ Customisable XML authoring control
- ✓ Can be embedded into any Web page or Windows Application
- ✓ Simple to deploy, integrate and maintain
- ✓ Drag & drop functionality
- ✓ Looks and acts like a word-processor
- ✓ Familiar Windows key and mouse behaviours
- ✓ Easily deliver information to print, the Web and other delivery channels

Description	Prices Ex VAT
Corel XMetaL 4.0 Developer Win	£657.99
Corel XMetaL 4.0 Developer Upgrade Win	£394.99



Developers can create customised interfaces based on the expertise level and needs of end users

Familiar Windows keyboard and mouse behaviours, drag-and-drop capabilities and advanced writing tools allow users to create XML content in confidence

COREL R.A.V.E. 2

Make animated vector effects with ease!

NEW!

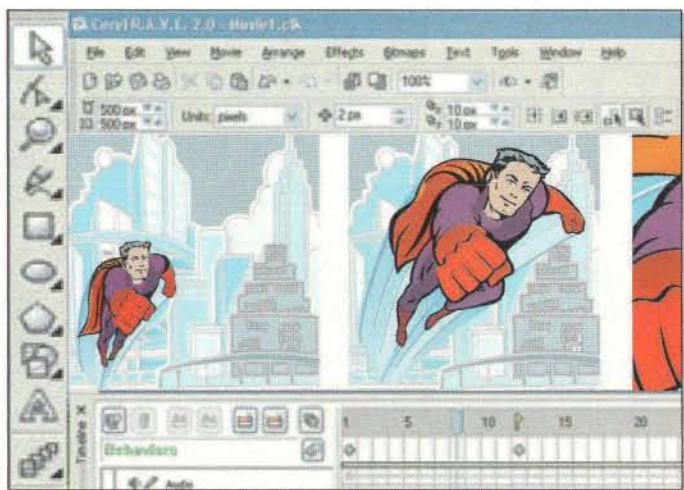


Corel R.A.V.E.™ 2 has easy-to-use tools that enable you – in minutes – to add interactive Flash animation to your Web designs and presentations. Using R.A.V.E. 2, you can import various file formats and transform them into dynamic, eye-catching animations.

You can export R.A.V.E. 2 files to Macromedia Flash™, animated GIF, Windows AVI and QuickTime movie files. You can also preview Flash files in your browser. Based on award-winning CorelDRAW technology, Corel R.A.V.E. 2 gives novice Web design enthusiasts all the capabilities they need, without all the complexities they don't.

What's New

- ✓ Support for symbols – Optimise the size of your animations
- ✓ Enhanced support for behaviours – Make your animations more interactive
- ✓ Advanced tweening capabilities – Tween PerfectShapes, text, extrusions and other objects
- ✓ Enhanced Timeline Docker – Manage the timelines of your animation quickly and easily
- ✓ Enhanced Flash Support – Ensure the best possible conversion with enhanced preflight warnings
- ✓ Publish R.A.V.E.™ files on the Web easily and quickly, in a wide variety of formats including Macromedia Flash
- ✓ Add rollovers, sounds and effects to objects for dynamic, interactive animation
- ✓ Create symbols with drag-and-drop ease from objects you've already used, reducing file sizes



Use the intuitive interface to streamline and simplify animation: drop imported graphics into the Timeline Docker, for example, and let the Docker animate them

Description	Prices Ex VAT
R.A.V.E. 2 Win	£24.99

New Formz

form•Z, the 3D form synthesiser, is above all a 3D modelling program, even though it also includes drafting, rendering and walk through animation. Additional photorealistic rendering is offered by form•Z RenderZone, and radiosity based rendering by form•Z RadioZity.

In order to help education in the field of CAD and 3D Design, auto-des-sys setup the form•Z Joint Study Programme.

The goals of the Joint Study Program are (1) to promote education in 3D modelling and computer enhanced design, and (2) to contribute to the evolution of computer driven design tools.

The Joint Study Program requires that a regular member of the faculty of a school be designated as the Principal Investigator (PI). The PI administers the program and submits a report and samples of student work at the end of the academic year. These reports are compiled by auto-des-sys into the Annual Joint Study Report called "Partnerships in Learning."

Part of the JSP is the Joint Study Extension license which makes form-Z available to students of JS schools, a year at a time, for use on their home computers.

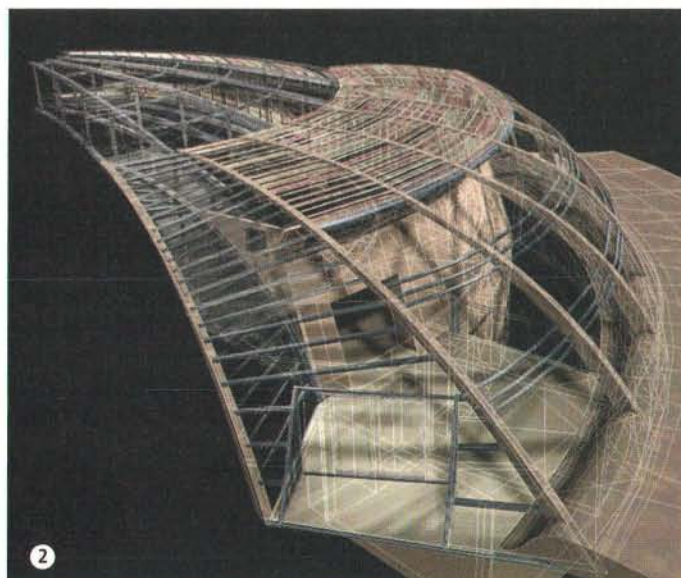
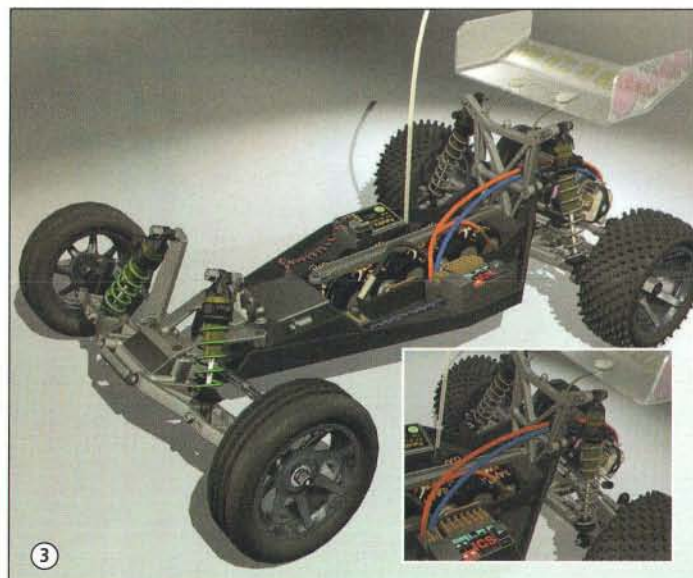
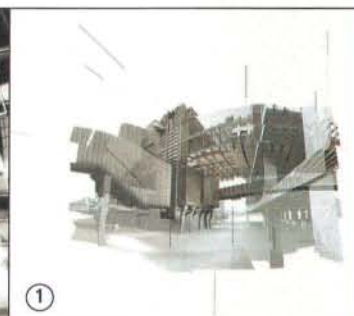
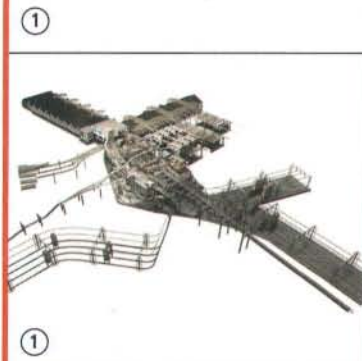
At the end of each year, auto-des-sys grants Awards of Distinction and Honourable Mentions to deserving students that participated in the JS Program. A jury of distinguished experts selects these awards. The winners of the Awards of Distinction receive a free copy of form-Z, and their schools receive a one year free subscription to the JS Program. As you can see from the following images, the standard of the submissions is incredibly high.

- ① Andreas Michelsen - Honorable mention Bartlett School of Architecture, University College London, UK
- ② Phillip Obayda - Award of Distinction Department of Architecture, University of Edinburgh, Scotland
- ③ Tim Rawcliffe - Award of Distinction School of Art and Design, Blackpool and The Fylde College, UK



form•Z

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VectorWORKS
 OBJECT-BASED CAD FOR PROFESSIONALS

VectorWorks 10.5

A significant upgrade to the VectorWorks line



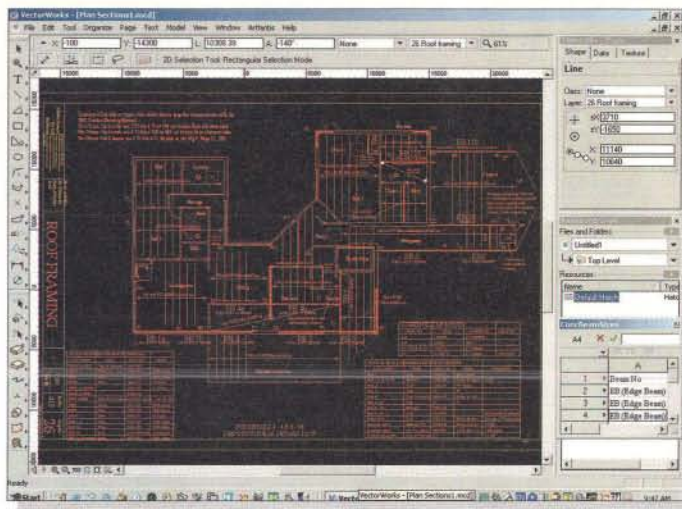
Nemetschek N.A. has just announced VectorWorks 10.5, a significant release offering users substantial improvement over their current technology, particularly in 3D. In terms of functionality, ease-of-use, and value, VectorWorks 10.5 free-form modelling technology is unbeatable. Plus, 3D users will have access to VectorWorks' award-winning drafting engine, data tracking and customisation capabilities.

VectorWorks is currently the best-selling CAD software on the Mac and an industry standard on Windows. With over 150,000 users in over 80 countries, it is one of the world's most popular CAD programs. Engineered to meet the specific needs of smart-sized companies, VectorWorks 10 has

everything you need for precision 2D drafting, powerful 3D modelling and sophisticated client presentations. Plus, it has built-in database and spreadsheet capabilities to track costs and materials, and flexible scripting language to automate routine drafting tasks. No other CAD program offers so much for so little!

Whether you are a new customer or have been using VectorWorks for years, now's the time to upgrade to 10.5.

- ✓ Interface refinements that make the program faster and easier to use
- ✓ New and improved 3D surface and solids modelling technology
- ✓ Improved printing and DXF/DWG reliability
- ✓ Improved door, window and roof objects
- ✓ Over 280 new textures and image props
- ✓ Easy database and spreadsheet functions
- ✓ Effortlessly extract NURBS curves from the edges of a solid object



VectorWorks 10.5 has everything you need for precision 2D drafting

Vectorworks is also available in the following variants:

VectorWorks ARCHITECT

Engineered to meet the specific needs of smart-sized companies, VectorWorks ARCHITECT has everything you need to streamline the design and production process. From project setup to programming, schematic design development and construction documents-ARCHITECT lets you work faster and smarter with fewer errors.

VectorWorks LANDMARK

CAD doesn't have to be too expensive or too difficult to use. With the right CAD program, you can increase productivity and profitability while creating better-looking drawings and 3D presentations.

VectorWorks MECHANICAL

Specifically engineered for designers, machine shops, and fabricators who need an easy-to-use, easy-to-learn, drafting and 3D

visualisation tool. VectorWorks MECHANICAL offers all the functionality of expensive MCAD programs, yet is available at a fraction of the cost.

VectorWorks SPOTLIGHT

The undisputed standard in entertainment and lighting design software, VectorWorks SPOTLIGHT merges sophisticated 2D drafting and powerful 3D modelling with advanced lighting design and production tools. Now it's easy to create light plots, place set and scenic elements on stage, automate reports and schedules, and visualise design concepts in 3D.

VectorWorks Industry Collection

In addition to the products listed above, NNA also offers the VectorWorks Industry Collection - a collection of ALL our VectorWorks products bundled together at one low price. You'll have access to all our CAD technology (VectorWorks, ARCHITECT, LANDMARK, SPOTLIGHT & MECHANICAL) in one easy-to-buy package. It's available with or without RenderWorks.



VectorWorks 10.5 makes it easy for you to convey concepts to your clients

autoCAD **form•Z 4** The award winning 3D form synthesiser

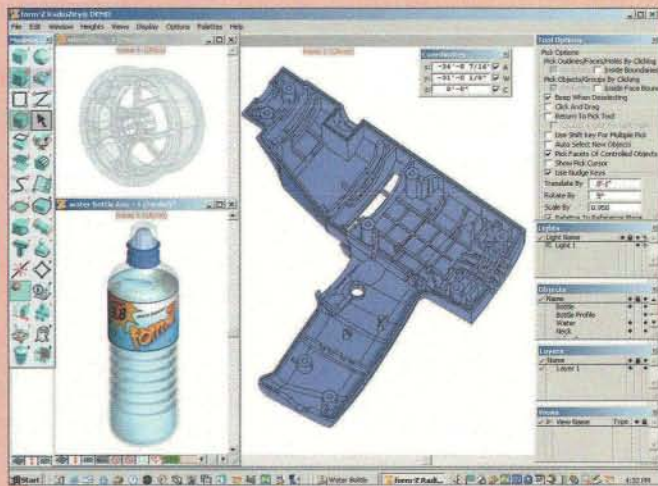


form•Z 4 is an award-winning general purpose solid and surface modeller with an extensive set of 2D/3D form manipulating and sculpting capabilities, many of which are unique.

It is an effective design tool for architects, landscape architects, urban designers, engineers, animators and illustrators, industrial and interior designers, and all design fields that deal with the articulation of 3D spaces and forms. form•Z is highly responsive to the needs of mature designers and, at the same time, novices can use it with ease.

form•Z 4.0 is cross platform and now fully supports Mac OS X. Version 4.0 comes with a completely restructured architecture that supports plug-ins and scripts. Some of the most significant new features and enhancements in version 4.0 include:

- ✓ Extensive set of NURBS: More NURBS curves and surfaces
- ✓ Nurbz from faceted objects and from metaformz
- ✓ New loft tool
- ✓ New Blend and Fillet tools
- ✓ More snapping to keypoints and tangents
- ✓ Lights in symbols
- ✓ More parametric surface editing
- ✓ More operations on parametric curves
- ✓ Network rendering
- ✓ More surface styles
- ✓ New HPGL format support



A variety of smoothly curved splines, including NURBS lines, can be drawn directly or can be generated from previously drawn vector lines using form•Z

Description	Prices Ex VAT
form•Z 4 Mac/Win	£1,096
form•Z RenderZone 4 Mac/Win	£1,463
form•Z RadioZity 4 Mac/Win	£1,753

Digital Photography & Imaging
Digital Video
Audio Visual & Displays
Web & Internet
3D Design
Pre-Press & Production
Illustration & Graphics
Business & Utilities
Networking & Connectivity
Peripherals & Accessories

@Last SOFTWARE **SketchUp 3**

A tool for creating and communicating with 3D design



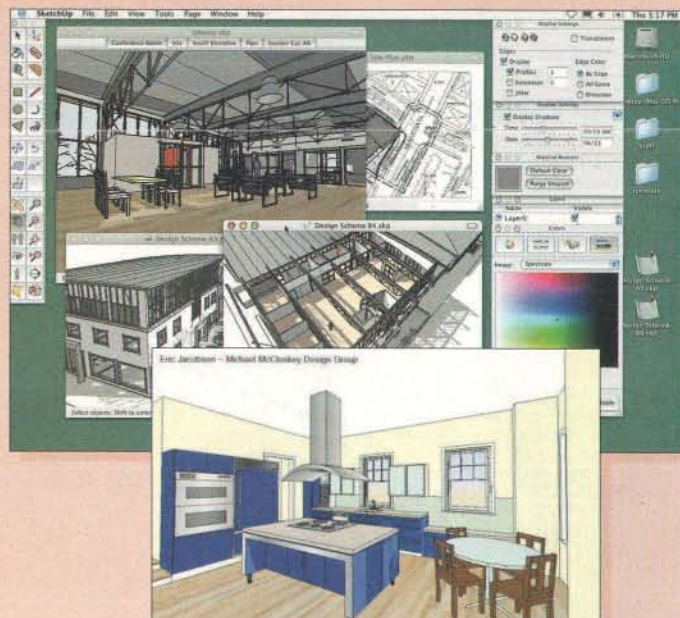
@Last Software's SketchUp 3 is deceptively simple, yet amazingly powerful software for creating, viewing, modifying and communicating 3D design concepts quickly and easily. Anyone who loves sketching by hand but finds using CAD cumbersome or frustrating will appreciate SketchUp's unique approach. Instead of requiring users to learn a vast complicated set of commands SketchUp combines a compact yet robust tool-set which streamlines the 3D drawing process.

Developed with the goal of putting 3D modelling into the hands of the masses SketchUp 3.0 adds a multitude of new features designed to help users create

superior models and then take them into 3D modelling, CAD, image editing, illustration and animation applications on both Macintosh OS X and Windows platforms.

- ✓ Animation Export of AVI, MOV and QuickTime files allows people to see your work easily
- ✓ Design communication can occur faster with Vector Output in EPS, PDF and VRML
- ✓ Improved Arcs, Circles and Polygons add greater realism to your models
- ✓ New support for Smoothed Faces and Soft Edges
- ✓ Material Transparency (Glass) is now available
- ✓ Annotate your work with the Dimension tool and the Note Tool
- ✓ Real-time shadow casting engine lets you see exactly where the sun falls as you model

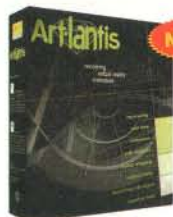
Description	Price Ex VAT
SketchUp 3 Mac/Win	£317.99



Soften your drawings with rendering effects like jitter lines, extended edges and dynamic profiles.

Art•lantis 4.5

Art•lantis Render is an intuitive rendering program



The stunning realism of the images rendered by Art•lantis, in addition to the unprecedented speed of real-time calculation have made it a leader in the world of 3D design.

Today, with its new Version 4.5, Art•lantis reinforces its technological leadership and confirms Abvent's commitment to continually innovate and provide you with powerful solutions, precisely tailored to meet your needs. The new features such as Site Insertion, Parallel Views, Billboards and more have all been carefully designed to optimise your productivity and to enable you to create scenes more real than ever

before, in the simplest, fastest and most intuitive way.

- ✓ Art•lantis can now be used for the site plan of your building permit
- ✓ Fine-tuning is possible with a real-time preview
- ✓ Light can always be re-emitted by objects, and materials
- ✓ Feature a rendering mode that reconciles technique with aesthetics
- ✓ Parallel sections of your scene can be generated in any position
- ✓ Controlling light source intensity has never been easier
- ✓ Art•lantis lets you preview textures before selecting them
- ✓ The Import Material function retrieves and re-applies materials and material combinations from older Art•lantis files
- ✓ Art•lantis users can directly and selectively control Depth of Field in a 3D scene



Art•lantis's amazingly realistic renderings have made it a leader in the field of 3D graphics

Description	Prices Ex VAT
Art•lantis 4.5 (stand alone) Mac/Win	£349.99
Art•lantis 4.5 (for VectorWorks) Mac/Win	£349.99

COREL Designer 10

Precision drawing tools for the professional



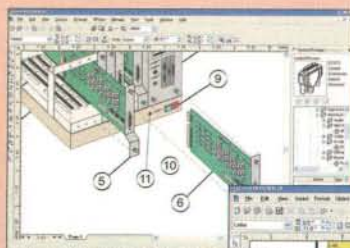
Corel Designer 10 is ideal for complex illustrations, diagrams and schematics – this powerful technical package delivers all the speed and precision you require. Robust new drawing, editing and tracing tools, and enhanced snapping capabilities allow you to quickly and accurately modify images, while new support for symbols saves time and dramatically reduces file sizes.

Easy network installation and compatibility with more than 60 popular industry formats, including support for AutoCAD 2002 DXF/DWG, DOC, VSD and CGM, ensure seamless file sharing and collaboration. With extensive scripting and customisation

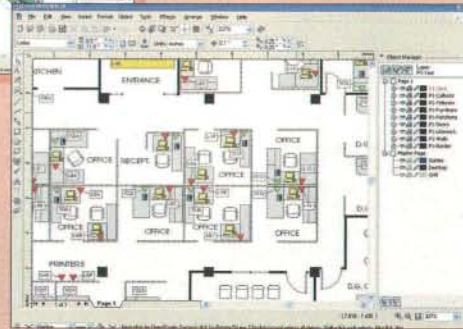
features, you can create solutions specific to your needs.

With the transformation Docker window, you can precisely move, rotate, scale, flip, skew and project objects to top, front and right isometric views. You can combine multiple objects into a single object with Convert to Ellipse and Join Curves options. Easily delete single line segments in just one click, or delete multiple line segments by marquee selecting them with the Virtual Segment Delete tool.

- ✓ Includes a comprehensive set of tools!
- ✓ Easily produce high-quality technical illustrations
- ✓ Includes support for over 60 import/export formats
- ✓ Designer 10 delivers extreme precision and accuracy!
- ✓ Set your own preferences to create the workspace suited to your needs!
- ✓ Robust technical illustration tools



With new Designer 10, you can quickly and precisely draw basic shapes, such as lines, curves, circles, ellipses, rectangles and polygons. Easily zoom in and out as needed when drawing an object with intuitive Zoom shortcuts



Description	Prices Ex VAT
Designer 10	£369.99
Designer 10 Upgrade	£199.99

NewTek **LightWave 3D 7.5**

The most productive and sophisticated software for 3D graphics and animation



One of the most productive and sophisticated software solutions for 3D graphics and animation, LightWave 3D is versatile enough to make the transition to and from all kinds of projects.

Proven for years in television, film and games, LightWave 3D is also being used to create graphics for print, Web, industrial design, architecture, medical imaging and anywhere else a 3D package is needed.

A full, robust program, LightWave 3D includes many of the tools that other packages require to be purchased separately. Soft-body dynamics, particles, hair and fur, plus unlimited render nodes, to

name a few; LightWave 3D ships with all the tools an artist needs to create.

- ✓ LightWave 3D is a real-time subdivision surface modeller
- ✓ Now includes 5 FREE Desktop Images training DVD discs
- ✓ Computes massive amounts of data FAST and creates ultra-high-quality imagery to help you work more and wait less
- ✓ Powerful completely interactive "true" subdivision surface modeller
- ✓ Motion Mixer helps you to edit non-linear animation quickly and easily
- ✓ Sasquatch Lite allows you to render high-quality fur, hair, grass and foliage quickly

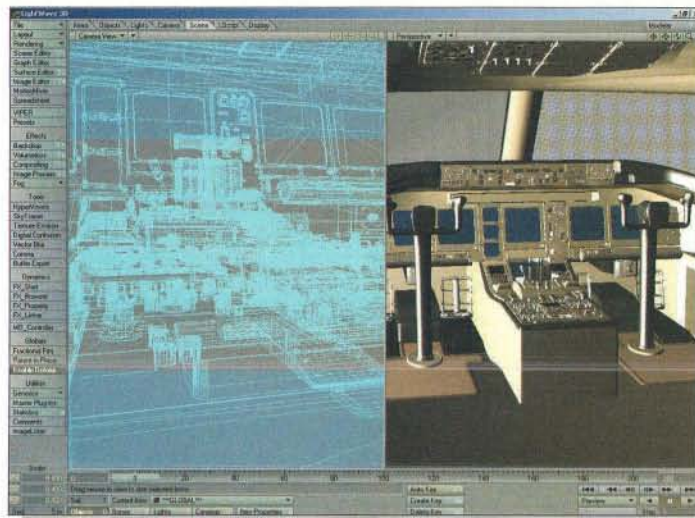
Exclusive UK LightWave 8 Preview

9th December 2003

Email jsmith@unlimited.com for details

Description Prices Ex VAT

LightWave 7.5 Duo USB Mac/Win £699.99



Enjoy the ability to model in any viewport including the perspective view

MAXON **CINEMA 4D R8.1**

CINEMA 4D R8 is the 3D solution for people living in the real world

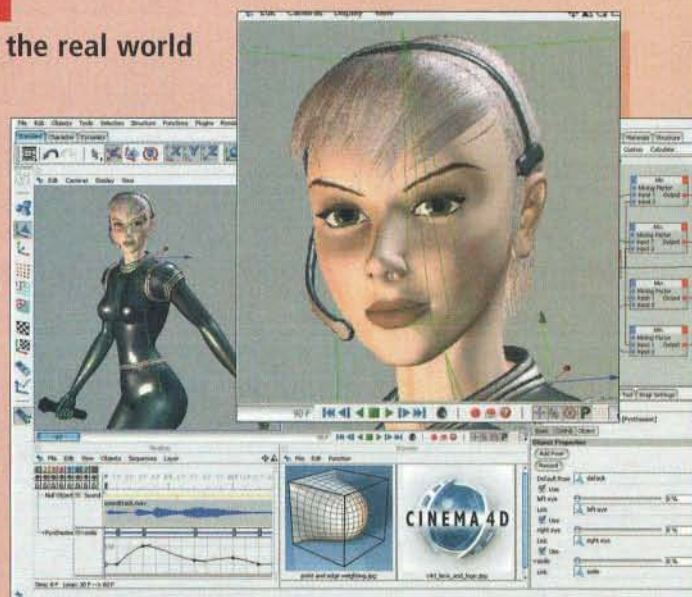


Now, at last you can get your hands on a powerful 3D solution with cutting edge technology at an undeniably affordable price. CINEMA 4D R8.1 comes complete with a wide range of powerful tools and features suitable for print, film and TV and multimedia. Using a vast array of polygonal modelling tools, you can easily mold a lumpy cube into almost any object. Then use CINEMA 4D's improved HyperNURBS to interactively smooth out the model, whilst

keeping a sharp edge with point, edge or polygon weighting.

- ✓ CINEMA 4D's 13-channel material system gives you incredible control over the properties of your 3D objects
- ✓ Make your objects shine with CINEMA 4D's lighting tools
- ✓ Completely customisable interface puts every tool within easy reach
- ✓ CINEMA 4D provides the animation tools to achieve almost any effect
- ✓ Make animations based on object and parameter interaction using XPresso for added realism
- ✓ CINEMA 4D supports most popular 2D and 3D file formats for guaranteed compatibility

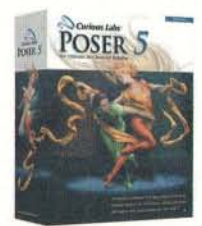
Description	Prices Ex VAT
CINEMA 4D R8.1	£424.99
CINEMA 4D R8.1 Upgrade (from XL7)	£365.99
CINEMA 4D R8.1 XL	£1,233
CINEMA 4D R8.1 Studio	£1,837



Powerful tools provide the ultimate flexibility to create anything you can imagine

Curious Labs **Poser 5**

The ultimate 3D character solution



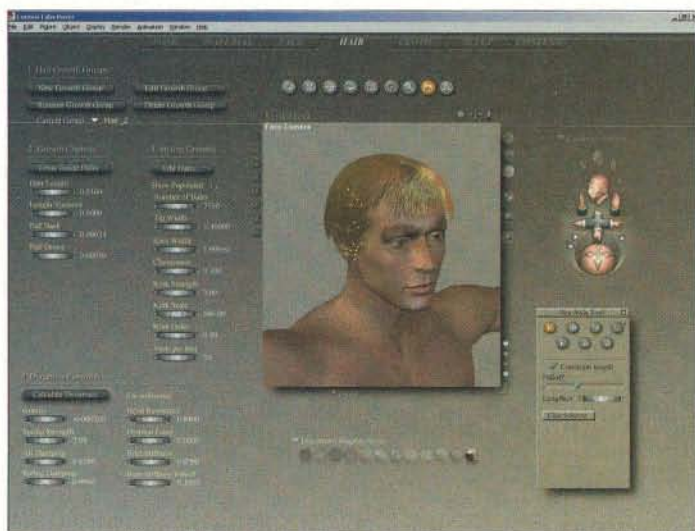
Poser 5 is the premiere 3D-character design and animation tool for artists and animators.

Create 3D figures from a diverse collection of ready-to-use 3D human and animal models. Map facial photos, grow and style hair, and create dynamic cloth to add

extraordinary realism to your figure. Quickly output movies and images from your posed figures for content in Web, print and video projects. For those new to 3D, digital artists and hobbyists alike, Poser 5 generates fast and dynamic results.

- ✓ Single, affordable easy-to-use package to create amazing 3D characters
- ✓ New highly accurate human figures to make your characters look really lifelike
- ✓ Morph Putty lets you directly manipulate facial expressions
- ✓ Photo realistic textures make cloth flow and drape around any object
- ✓ Innovative interface makes figure design, posing and animating fast and easy

Description	Prices Ex VAT
Poser 5 Mac	£297.99
Poser 5 Upgrade (from Poser 4) Mac	£136.99
Poser 5 Win	£297.99
Poser 5 Upgrade (from Poser 4) Win	£136.99



Grow strand-based hair on figures and props using the new Hair Room

WACOM Cintiq 18SX

A digital sketchpad for enhanced visualisation



The Cintiq 18SX is an 18.1" LCD tablet with SXGA resolution (1280x1024), 24 bit-colour and an Ultra FFS surface. A modular mounting component allows the 18SX to incline to various angles and the screen can be rotated through 180 degrees. It can be used as a primary display in either portrait or landscape orientation.

Whether you're a CAD operator, an architect or an industrial designer, no matter what you use the computer to create, a Cintiq Interactive Pen Display is the efficient all-round tool for you. The Cintiq 18SX has been proved particularly effective when used with Alias Wavefront Studio Tools, Autodesk Architectural Studio and just recently Sketchup.

These applications can be used with ease as the Cintiq 18SX can be used as an intuitive

sketchpad, precise digital tablet and or just as a flexible display: you'll fly through menus, build constructions, alter drafts and manipulate your designs with newly discovered ease.

The Cintiq 18SX can be attached to either a standard VGA or DVI graphics card and uses either a USB or serial port to communicate with the computer. Navigate, design, draw, sketch and write directly on the screen! Cintiq is much more than an input device. It is more natural, intuitive and far more ergonomic than anything you have used before.

It enables you to work directly with a pen on the full coloured display. The Cintiq pen



A modular mounting component allows the 18SX to incline to various angles and the screen can be rotated through 180 degrees

Electric Image Universe 5

Silky smooth motion and pixel-perfect 3D imagery



Universe continues to grow and adapt into one of the fastest and most powerful 3D programs on the market! Included in the many upgrades in version 5.0 are Radiosity 1.0, Multi-Processor Support, Match Move, Material Library System, Macromedia Shockwave Support, OpenGL shaded texture previews, capability to render directly to six-frame environment map format, new View Camera Controls with single and two point perspective rendering, and Time Markers for quick

shortcuts to events in your project. Universe 5 delivers more speed than ever with a new Multi-Processor batch and slave rendering system.



- ✓ Hybrid surface and solid modelling with resolution independent modelling
- ✓ Work with advanced character animation tools and polygon counts in the millions for "pixel perfect" imagery
- ✓ Amazing shadow quality and channel-based raytracing technology for realistic light effects
- ✓ Rendering capability across an entire network keeps costs at a minimum
- ✓ New multi-processor batch and slave rendering system helps you save time with super fast processing
- ✓ New radiosity engine with seamless integration in Universe Animator

Description	Prices Ex VAT
Electric Image Universe 5 Mac/Win	£999.99
Electric Image Universe 5 Upgrade (from 4D Garage Toolkit) Mac/Win	£659.99
Electric Image Universe 5 Upgrade (from EIAS pre 4.0) Mac/Win	£399.99



With the ability to effortlessly tilt and rotate the display, it is possible to work easily and individually directly on the screen

gives you ultimate hand-eye co-ordination. See your work, touch it, feel it and change it. The Cintiq is at an advantage in any software environment. It is like working digitally on paper – but with the power of today's software. Design, presentations, AV editing, animation, illustration and document processing – Cintiq is the solution for higher productivity.

- ✓ Pressure-sensitive tablet and LCD monitor in one
- ✓ Navigate, design, draw, sketch and write
- ✓ Work directly on the screen for the most intuitive and natural style
- ✓ Free up desk space as you won't need your monitor and mouse anymore!
- ✓ Revolutionary display technology offers increased brightness and colour
- ✓ Interactive pen display supports Windows, Mac, SGI and Sun
- ✓ TFT active matrix LCD
- ✓ SXGA (1280 x 1024 pixels)

Description	Prices Ex VAT
Cintiq 18SX Interactive Display Serial + USB Mac/Win	£2,249
Cintiq 15X Interactive Display Serial + USB Mac/Win	£1,299

Complementary Products

After Effects 6.....p.17

For the ultimate ease of use in video effects

Vectorworksp.33

Take advantage of the extensive screen real-estate to simplify your life

SketchUpp.34

Sketch on the screen – and then output your images in sketch form!

LightWavep.35

Create stunning hi-res 3D images directly on the screen

CINEMA 4Dp.34

Revolutionise your 3D workflow with the Cintiq 18SX

Illustrator CSp.47

Make full use of the pressure sensitivity function when using Adobe Illustrator

- ✓ 16.7 million colours (24 bit)
- ✓ 300:1 contrast ratio
- ✓ Compatible with Mac, Windows 98, 2000, ME, XP, NT4 SGI and Sun
- ✓ Serial or USB interfaces

evolve solidThinking 5.5

SHAPE THE FUTURE
The solution for industrial design and engineering



EVOLVE's solidThinking 5.5, now available for Mac OS X and Windows, is a breakthrough 3D modelling and rendering environment delivering all the tools for the creation of high-quality, professional 3D models and the power to render them with unsurpassed photo-realism.

The first true industrial strength styling application for the desktop, solidThinking provides unrivalled surfacing options and unparalleled ease of use, increasing the designer's productivity and creativity while drastically reducing time-to-market and product development costs.

For industrial designers, style centres and CG artists solidThinking is fully parametric due

to the exclusive Construction History. It is a Class-A surface modeller that lets you render your manufacturable models with unsurpassed photo-realism and allows you work in an intuitive and comfortable manner so you can create complex scenes in the fastest way possible.

- ✓ User-friendly interface and flexible layout makes it simple and easy to use
- ✓ Full OpenGL support for the highest interactivity in any modelling phase
- ✓ Matchless NURBS power gives you greater flexibility and precision
- ✓ Construction tree allows you to check your modifications in real-time
- ✓ Advanced modelling tools set enables you to create any shapes you want

Description	Prices Ex VAT
solidThinking 5.5 Forma Mac/Win	£358.99
solidThinking 5.5 Design Mac/Win	£1,983
solidThinking 5.5 Vantage Mac/Win	£3,609

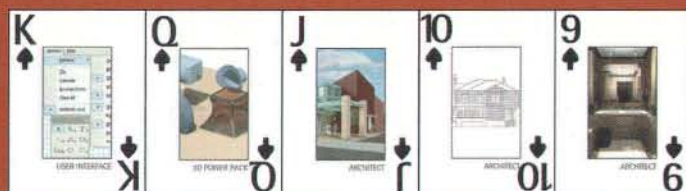
Deal Yourself A Winning Hand

Nemetschek N.A have just announced VectorWorks 10.5, a significant release offering users substantial improvement over their current technology, particularly in 3D. In terms of functionality, ease of use, and value, VectorWorks 10.5 free-form modelling technology is unbeatable. Plus, 3D users will have access to VectorWorks' award-winning drafting engine, data tracking and customisation capabilities.

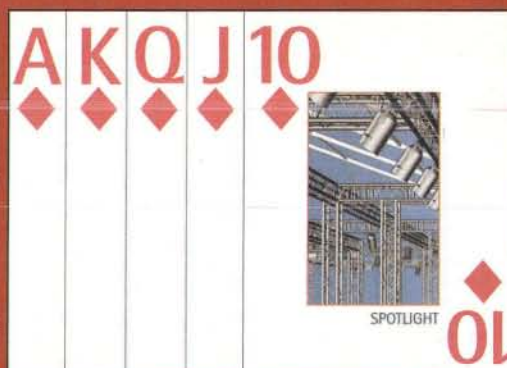
Some of the main improvements to version 10.5 include:

- Interface refinements that will speed up your workflow
- New and improved 3D surface and solids modelling technology
- Improved printing and DXF/DWG reliability
- Improved Door, Window and Roof Objects
- Over 280 new Textures and Image Props

For a full feature list visit: www.Upgrade.VectorWorks.net



NEMETSCHKEK
NORTH AMERICA



NEW VERSION!

10.5

VectorWORKS

WIN a SONY PremierPro Wide Flat Panel LCD Monitor

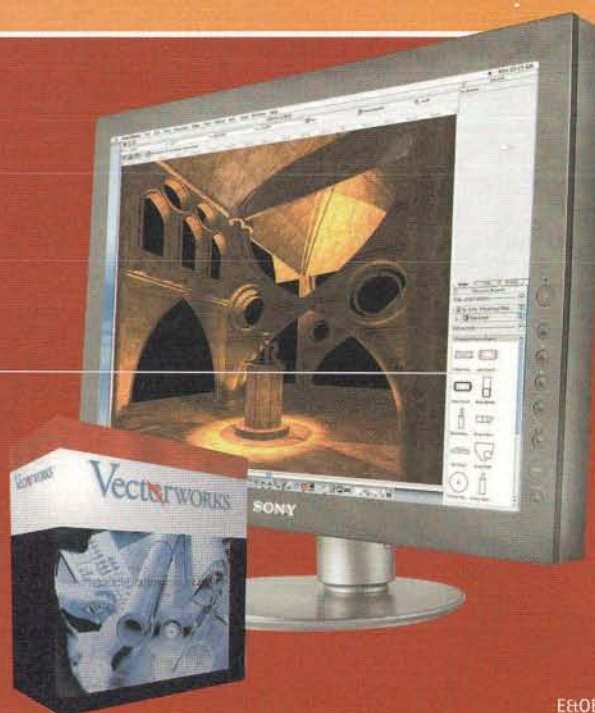
Purchase any VectorWorks software product before December 31st, 2003 and we will automatically enter you to win one of THREE Sony Premier Pro 23" Wide Flat Panel LCD Monitors.

The perfect complement to VectorWorks 10.5, Sony's Premier Pro 23" Wide Flat Panel LCD Monitor offers a panoramic 16:10 aspect ratio, digital and analog input, and Slim Bezel Design that manages your cables to keep your workspace clutterfree. It's an artistic statement for your home or office - even when it is turned off!

Nemetschek N.A. are giving one away for the months of October, November, and December. Winners will be selected at random on the last day of each month, and announced the following week.

How to Enter

To enter users should visit website <http://www.transaction-one.com/en/vectorworks.jsp> and submit a registration form



EEOE.

The Glamour of InDesign

With a history stretching back to 1939, the U.S. edition of Glamour is the largest-circulation title in the Condé Nast stable, selling more than 2.2 million copies a month.

In Spring 2001, Glamour launched in the UK, bringing its mix of style, celebrity and real-life content to British readers. And Adobe InDesign is what the Glamour production staff use to create it.

Describing itself with a string of adjectives that starts with 'confident, stylish, smart, sexy' and winds up with 'clean, modern and beautiful', the magazine set itself a high target for its visual appeal. Combined with its novel format – 235 millimetres tall by 170 wide, small enough to fit in a handbag – the look of the publication would be instrumental in attracting readers' attention amongst the crowded newsagents' shelves and achieving sales success.

To achieve the crucial aim of providing a fresh, compelling look, then-production director Jasper Scott chose to design and produce UK Glamour with Adobe InDesign, Adobe's new-generation page layout and design tool. The choice was made on InDesign's strengths as a design and production tool, and because of Adobe's reputation for customer support.

Getting Fresh

"I feel so fresh when I use InDesign," comments launch art director Tony Lock. "Suddenly there are things I couldn't do before which I am now putting all over the page. It's like putting on glasses after years of blur."

His successor, current creative director Geoff Waring, agrees: "We love InDesign. We wanted to use the features of InDesign to make Glamour look different. We have used the text outlining capability extensively to produce 'see-through' and offset text for headlines, and this has helped give us our own identity and make us different from other magazines in our sector."

Learning to use the extended creative capabilities of InDesign wasn't difficult, either. Although Waring missed out on the training that his colleagues received, he found it very straightforward to pick up the

program, especially since he was already familiar with other Adobe creative applications.

"The program is obviously built for designers; it's a logical progression if you're used to Illustrator and Photoshop; you can work out for yourself how to do things," he says. "Initially it was a bit like learning to drive a new car, but once I got used to it, the exciting new creative aspects became immediately accessible."

Fabulous Housemates

The ability to create, view and fine-tune sophisticated type effects within one program is a benefit to productivity as well as creativity: "Previously we would have had to create these as graphics in Adobe Illustrator, bring them into QuarkXPress and experiment to get the positioning right," explains Waring. "Creating everything right in InDesign is much quicker, and makes life easier and more creative for the designer."

Designer Jo Baldwin agrees, "InDesign gives designers so much more creativity, especially with typography. We also find it a great help to be able to access and edit Photoshop and Illustrator files so easily – Illustrator files can even be edited 'on page' if they are imported correctly. You almost get the feeling that the three programs are one."

Lock had found the same thing in his experience with the three programs, as he recalls, "Because of the mechanics of the Adobe interface, you find that Photoshop and Illustrator begin to maximise their potential as you go along. It's great to move between programs with so much harmony; the compatibility is so satisfying."

InDesign gives designers much more creativity, especially with typography.

High-quality previews of placed graphics and illustrations also make the designer's life easier with InDesign, as Waring explains, "Because you can see the graphics as well in InDesign as in the application in which they were made, the pages look so much better on-screen, which is better for us

"We love InDesign. It has helped give us our own identity and make us different from other magazines in our sector."

– Geoff Waring, creative director, Glamour

s when we are designing and helps sell our concepts to the editor."

Getting an idea of how the page designs will print is also made easier with InDesign, adds Waring. "We export Adobe PDFs of the covers and print them out on glossy paper on an EPSON inkjet. We get fantastic quality, even when we're using special colours."

Gorgeous Type

InDesign's rich typographic controls are also being fully exploited in the production of Glamour. The optical kerning, which calculates inter-character spacing according to the exact shape of each character, is just what was needed to work with the magazine's body copy typeface, Bembo, as chief sub-editor Tom Stone explains: "Bembo is quite a quirky typeface, and can set oddly if we use the normal metrics. By using InDesign's optical kerning we avoid that problem altogether," he says.

InDesign's innovative multi-line composer for high-quality hyphenation and justification is also put to regular use in composing body type. "It took a little getting used to how it changes line endings both before and after the insertion point as you make edits," recalls Stone, "but nine times out of ten it produces better results."

InDesign provides greater creative flexibility through its ability to create sophisticated effects such as outlined type, so you won't need a laborious graphics import from a separate application.

The common interface shared by InDesign, Photoshop and Illustrator makes learning InDesign an intuitive, straightforward process, minimising training requirements. Overall, InDesign is well up to the demanding page layout requirements of Glamour magazine.



New Document

Document Preset: [Default] OK Cancel Save Preset... Fewer Options

Number of Pages: 1 ☒ Facing Pages ☐ Master Text Frame

Page Size: Letter Width: 215.9 mm Height: 279.4 mm Orientation:

Columns Number: 1 Gutter: 4.233 mm

Margins Top: 12.7 mm Bottom: 12.7 mm Inside: 12.7 mm Outside: 12.7 mm

Bleed and Slug

	Top	Bottom	Inside	Outside
Bleed:	0 mm	0 mm	0 mm	0 mm
Slug:	0 mm	0 mm	0 mm	0 mm

The close integration between InDesign, Photoshop and Illustrator enhances the creative process

Adobe Creative Suite

An integrated design environment packed with Adobe's best software!



The Adobe Creative Suite is an integrated design environment that combines full, new versions of Adobe's latest creative tools with innovative file-management features, a smooth Adobe Portable Document Format (PDF) workflow and comprehensive design resources. Now you can create and publish content for print and the Web faster and easier than ever – all at an outstanding value.

In Adobe Creative Suite Premium, you get new complete versions of Adobe Photoshop CS, Adobe Illustrator CS, Adobe InDesign CS, Adobe GoLive CS and Adobe Acrobat 6.0 Professional software, plus the innovative Version Cue™ file management features, a smooth Adobe Portable Document Format (PDF) workflow and valuable training resources.

Also available is Standard edition, which combines Photoshop CS, Illustrator CS, and InDesign CS – also supported by Version Cue file-management features, an Adobe PDF workflow and training resources.

Create artwork smoothly

With the Adobe® Creative Suite, you can create beautiful, detailed artwork for your clients and projects. Editing images, creating

photo compositions and drawing vector graphics has never been a more fluid and flexible process.

Image editing

Create high-quality bitmap images and compositions that can be published in print or on-line using support for the most current industry-standard import and export formats.

Automate design and production tasks, such as saving layer comps as separate pages in an Adobe Portable Document Format (PDF) file, using enhanced scripting support.

Take your creativity to new heights using new tools such as text on a path, the ability to instantly apply the colour scheme of one image to another and photo filters that mimic traditional camera filters.

Drawing and illustration

Import Adobe Photoshop® CS image compositions directly into Adobe Illustrator® CS software – or create drawings in Illustrator and import them directly into Photoshop.

Drop Illustrator files directly into Adobe InDesign® CS layouts as well as documents in Microsoft Office and other applications.

Streamline review processes by saving Illustrator files as Adobe PDF files, which clients and colleagues can comment on electronically using the annotation tools in Adobe Acrobat® 6.0 Professional.

Layout print and Web pages easily. Import your native vector and bitmap artwork directly into InDesign CS software for sophisticated print layouts or into Adobe GoLive® CS software for powerful Web pages.

Page layout

Import native Photoshop files into InDesign, where you can apply editable drop shadows, feathering and other opacity settings to produce natural-looking transparent effects.

Import, create, edit and export XML documents, complete with structure and tags, in InDesign.

Web layout

Use Smart Objects to incorporate Adobe PDF, Photoshop, Illustrator and other native assets directly into Web pages. Import XML-based content packaged from InDesign to automatically prepare print pages for Web publishing.



Quickly preview, tag, and sort images; search and edit metadata and keywords, and automatically share batches of files from the improved File Browser

Review and comment

Track the status of feedback; filter, sort and print comments by author, date and status with Acrobat 6.0 Professional.

Prepare for print

Generate high-quality output using Acrobat Professional's advanced features to print colour separations, set marks and bleeds, and determine Adobe PostScript® options.

Eliminate surprises and know exactly how your documents will print using colour separation and transparency-flattening previews. Save time and avoid costly printing errors using Acrobat Professional's built-in preflighting tool.

Top Features

- ✓ Complete design integration – Experience unmatched integration with full new versions of the industry's leading and most trusted professional creative applications
- ✓ A complete toolset – Use a complete set of the industry's foremost design tools – built to work together and priced affordably
- ✓ Design and training resources – Get the most from your software with in-depth tips, expert tricks and comprehensive design resources
- ✓ Intuitive file finding – Use Version Cue™ to find files quickly by viewing thumbnails or search on robust metadata such as description, keywords, author, copyright and file type
- ✓ Common interface and toolset – Come up to speed quickly and work efficiently using common commands, tools, palettes and keyboard shortcuts
- ✓ Smooth workflow – Boost your productivity with time-saving integration and a smooth Adobe Portable Document Format (PDF) workflow
- ✓ Expanded support options – Receive 90 days of complimentary support and then take advantage of Adobe Studio™ resources or extended Expert Support options
- ✓ Cross-media publishing – Position yourself for the future and take your skills to the next level by creating content for both print and the Web

Complementary Products

ArtixScan 2020p.6

Professional A3 Pre-Press Scanner workflow

Intuos2p.13

Streamline your Photoshop CS workflow

ColorProof 5p.43

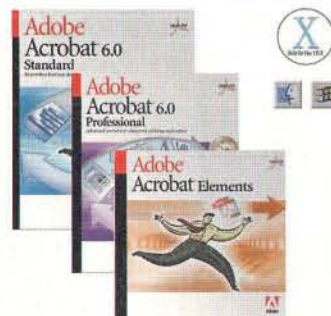
This software RIP simplifies your Pre-Press

Stylus PRO 4000p.44

Proof your work with confidence that your colour is spot on

Adobe Acrobat 6 Family

Advanced control over document exchange and output



The Adobe Acrobat software family helps businesses simplify document processes with the Adobe Portable Document Format (PDF). A standard adopted by governments and enterprises worldwide, Adobe PDF is a reliable, secure format for electronic document output and exchange.

Acrobat 6 Professional

Acrobat 6 Professional makes it easier than ever to create, distribute, review and archive Adobe PDF files from a variety of sources, including specialised software applications.

Acrobat 6 Professional has features tailored specifically for engineering and creative professional workflows.

Acrobat 6 Standard

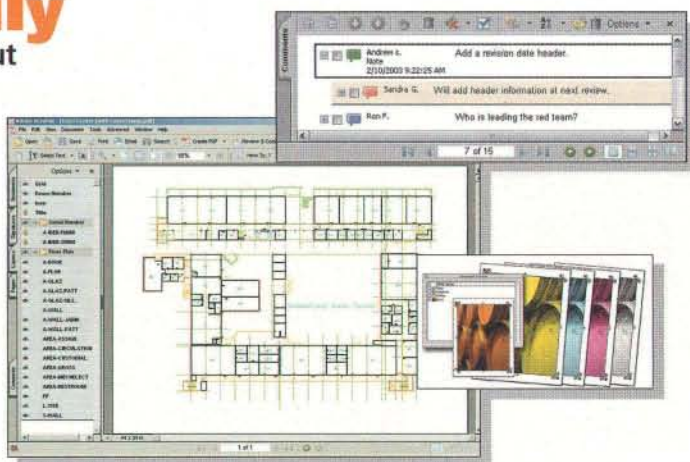
Acrobat 6 Standard provides business professionals with easy-to-use tools for creating, reviewing and exchanging Adobe PDF files.

Acrobat Elements

Available through volume licensing, Acrobat Elements helps enterprises extend the value of their Microsoft Office investment by standardising on Adobe PDF for reliable document distribution.

The Acrobat software family lets you:

- ✓ Easily create and aggregate documents for review
- ✓ Improve the reliability and efficiency of critical document exchange
- ✓ Review tracker lists, participating reviewers and feedback received



Adobe Acrobat 6 Professional software provides robust new tools for efficiently exchanging graphically complex documents

Description	Prices Ex VAT
Acrobat Professional 6 Mac/Win	£375.99
Acrobat 6 Professional Upgrade Mac/Win	£119.99
Acrobat Standard 6 Mac/Win	£245.99
Acrobat Standard 6 Upgrade Mac/Win	£89.99

QUARK QuarkXPress 6

New design and productivity-enhancing features



QuarkXPress 6 is powerful layout software with an intuitive, versatile interface that lets you combine writing, editing and typography with colour and pictures to produce dynamic final output.

The intuitive QuarkXPress 6 interface is largely based on palettes that let you choose from a variety of tools, styles, colours, measurements and so on to quickly construct a document. Using the

comprehensive editing features of QuarkXPress, you can import and manipulate pictures and text.

- ✓ Updated OS compatibility means you can use QuarkXPress on today's cutting-edge computers
- ✓ Rich functionality for Web design increases your flexibility
- ✓ New layout spaces enable better project management
- ✓ Long-awaited expanded multiple undo now included
- ✓ Direct PDF export simplifies your workflow



Description	Prices Ex VAT
QuarkXPress 6.0 Mac	£1,095
QuarkXPress 6.0 Win	£1,095

QUARK QuarkXPress Passport 6

The leading DTP software in multiple languages



QuarkXPress Passport Edition is a complete, fully functioning version of QuarkXPress that includes additional features for multi-language publishing. The Passport Edition contains dictionaries for and hyphenates the following languages: Danish, Dutch, English (International), English (United States), French, German, Italian, Norwegian, Spanish, Swedish and Swiss-German.

With a click of the mouse, you can display the user interface in any of the 10 languages supported by QuarkXPress Passport. User manuals and documentation in .pdf format are available in all supported languages.

- ✓ Translated user interface function makes it simpler and easier to use
- ✓ Complete, localised documentation in .pdf format
- ✓ Additional languages available on request
- ✓ Support for 11 European languages increases functionality
- ✓ Fully functioning version of QuarkXPress
- ✓ Manuals are available in each of the supported 11 languages

Description	Prices Ex VAT
QuarkXPress Passport 6.0 Mac	£1,365
QuarkXPress Passport 6.0 Win	£1,365

Adobe InDesign CS

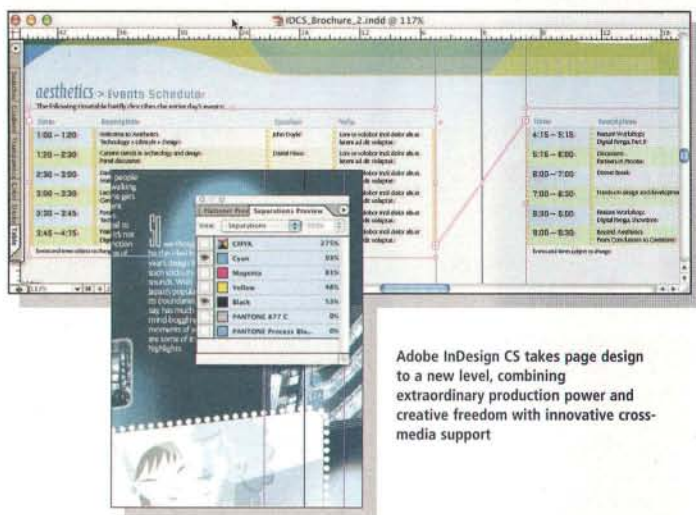
Setting new standards for layout and design



Adobe InDesign CS software combines extraordinary production power and creative freedom to take page design to a new level. With InDesign CS, you can produce pages quickly and output them reliably.

Its intuitive creative toolset helps you refine design ideas rapidly. The ability to import native Photoshop, Illustrator and Adobe Portable Document Format (PDF) files saves significant production time. Plus, InDesign, Photoshop and Illustrator software share a standard Adobe interface, so you can get up to speed quickly and work more efficiently with tightly integrated tools.

- ✓ Separations Preview palette - Prevent printing errors by using the Separations Preview palette to preview plates, overprinting, ink limits and more
- ✓ Story Editor - Edit and style text in the Story Editor, an integrated word processor that helps you more efficiently handle text spanning multiple frames
- ✓ Flexible workspace management - Take advantage of numerous workspace enhancements, such as the new Control palette and custom workspaces, to tailor your work environment to your needs
- ✓ Enhanced support for Photoshop (PSD) files - Place and print native Photoshop CS files, including duotones, tritones and quadtones, as well as PSD and TIFF files that contain spot channels
- ✓ Usability enhancements - Work more efficiently with dozens of usability enhancements. For example, double-click a text frame to switch instantly to the Type tool



Adobe InDesign CS takes page design to a new level, combining extraordinary production power and creative freedom with innovative cross-media support

Description	Prices Ex VAT
InDesign CS Mac/Win	£607.99
InDesign CS Upgrade Mac/Win	£139.99

macromedia Fontographer 4.1

The most powerful way to modify and create Fonts



Easily expand existing fonts to include fractions, symbols, foreign characters and logos in Type 1, Type 3 and TrueType fonts, or create an entire typeface from scratch.

Fonts created with Fontographer can be used in any program with a font menu on Windows and Macintosh platforms. Fontographer has all the tools to make type manipulation easy for both beginners and professionals. It's easy to add fractions, special symbols, foreign characters, even logos to all your favourite fonts. Fontographer's fast rendering lets you design, edit, and manipulate fonts in a variety of editing windows. View your work

in the Metrics window to see how your characters will look when printed.

- ✓ Compatible file formats - Windows and Mac versions
- ✓ Import EPS files from programs like FreeHand and Illustrator
- ✓ Print key maps of all your fonts and keep customisations at your fingertips
- ✓ Fast rendering lets you design, edit and manipulate a variety of fonts
- ✓ Specify, view and print characters for great typographical precision
- ✓ Type manipulation toolset makes it easy to add special symbols to all your favourite fonts
- ✓ Print samples of characters, keyboard layouts and kerning pairs for future reference

Description	Prices Ex VAT
Fontographer 4.1 Mac	£299.99
Fontographer 4.1 Win	£299.99

Extensis QX-Tools Pro

Productivity Tools help you get more out of QuarkXPress



Extensis QX-Tools Pro helps QuarkXPress users create better documents faster. QX-Tools Pro simplifies everyday tasks such as sending files to the printer, importing objects such as Excel charts, fine tuning object and character settings and more.

- ✓ Gather and send job files, fonts and images directly to your FTP site
- ✓ Single palette displays all the QuarkXPress shortcuts

Description	Prices Ex VAT
QX-Tools Pro Mac	£149.99
QX-Tools Pro Mac Download	£129.99

Extensis QX-Effects 3

Create shadows, glows, bevels and embosses



QX-Effects lets QuarkXPress users add high-quality shadows, glows, bevels and embosses to images and text directly inside QuarkXPress.

- ✓ Make perfect shadows in seconds
- ✓ Instantly create glow effects on images and text using slider controls
- ✓ Build flat, round, slope and double bevel FX around any object or text

Description	Prices Ex VAT
QX-Effects 3 Mac	£99.99
QX-Effects 3 Mac Download	£97.99

Extensis Suitcase X1

The ultimate font manager



down your systems, but also impact workflow. Suitcase X1 has the tools to help you get control over your fonts.

- ✓ Preview fonts in various ways without activating them
- ✓ Global auto-activation for the most popular Mac OS X applications
- ✓ Automatic scanning of fonts to see if they are corrupt
- ✓ Detection and easy cleanup of duplicate fonts in your database
- ✓ Fonts activated on demand are activated temporarily – you no longer need to activate and deactivate fonts for each new file
- ✓ Instant resolution of font conflicts
- ✓ FREE FontBook, for creating a complete overview of all your fonts
- ✓ FREE MorrisonSoft Design's FontDoctor, for font problem diagnosis, repair and organisation

Suitcase X1 delivers professional-level functionality to graphic designers, prepress and printing professionals, including any user that demands an efficient solution for managing, previewing and activating fonts in Mac OS X. Suitcase X1 connects seamlessly with Suitcase Server to provide efficient font management for workgroups.

Volumes of fonts are a vital competitive advantage, but managing them can be a headache. Thousands of fonts not only slow



Suitcase X1 lets you preview fonts in an assortment of ways before you activate them

Description	Prices Ex VAT
Suitcase 11 (OS X) Mac	£69.99
Suitcase 11 (OS X) 5-User Mac	£299.99
Suitcase 11 (OS X) Upgrade Mac	£34.99

Extensis Suitcase Server 10.2

The ultimate font manager for workgroups

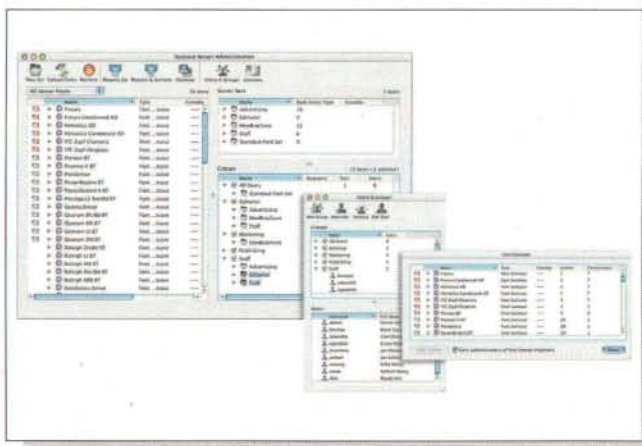


Mac OS X server platforms. The new administration application is built directly into the Suitcase application for both Macintosh and Windows, so administrators can control the Server from any Macintosh or Windows computer.

- ✓ Ensure that your users always have the fonts they need
- ✓ All font types can be stored and managed in a single database
- ✓ Administrators now have the capability to create individual users and assign them to a specific group or groups
- ✓ Administrators can designate specific font sets as either required or optional
- ✓ Suitcase Server runs on both Windows and Mac OS X server platforms
- ✓ Easily find and distribute fonts in predefined folders
- ✓ Reduce network activity and free up hard-disk space

Suitcase Server combines the control you want with the ease of use you need. Restrict access to users and groups, while maintaining font license compliance. Suitcase Server will alert administrators to potential font license violations before workgroup users even have access to the fonts, and remote cross-platform administration provides for complete flexibility.

With version 10.2, Suitcase Server allows all font types to be stored and managed in a single database. The newly designed server is significantly faster than the previous one. Suitcase Server runs on both Windows and



Suitcase Server now stores fonts in a secure and centralised database that is only accessible via the new Suitcase Server Administration tools.

Description	Prices Ex VAT
Suitcase 10.2 Server (including 5 clients) Mac/Win	£699.99
Suitcase 10.2 Server Upgrade (no clients) Mac/Win	£349.99

Extensis Font Reserve

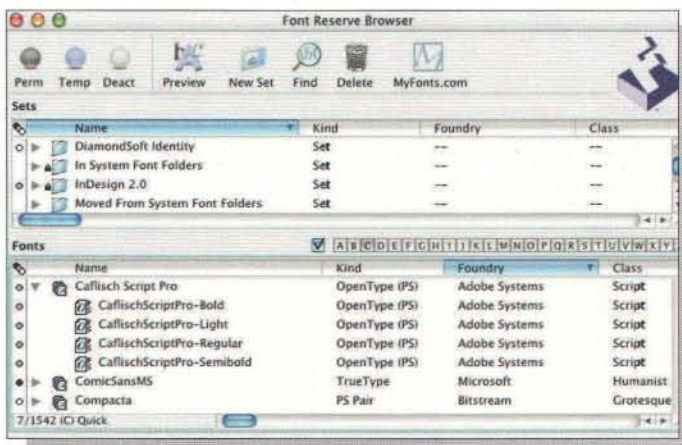
Award-winning font management



- ✓ Mac OS X version 10.2 (Jaguar) support. Font Reserve 3.1 is available for Mac OS 8.5 through 10.2
- ✓ The first and only system-wide automatic font activation
- ✓ Font Sense plug-ins for precision auto-activation in Adobe InDesign 2, Adobe Illustrator 10, and QuarkXPress
- ✓ Expanded font-format support: OpenType, Apple's dFont, double-byte, Multiple Master, and Windows TrueType fonts
- ✓ A completely automated System Font Handler
- ✓ Add fonts in any format from any source – hard drive, System Fonts folders, the Internet, networked drives, Zip disks, Jaz disks, CDs
- ✓ The System Font Handler prevents confusion and conflicts
- ✓ Direct link to MyFonts.com's 24,000 fonts providing a quick solution for getting missing fonts and new fonts

The award-winning and innovative Font Reserve is the only font management system to address all the day-to-day challenges inherent to working with fonts – from where a font is, to what it looks like, to which version is active and ensuring that the right font is in the right place at the right time. Font Reserve's rich feature set is cool enough for designers, strong enough for IT professionals, and fast enough for the most demanding production managers.

Font Reserve provides a single point of access to all the fonts on your computer – making it easy to find and manage them.



Font Reserve helps you address all the day-to-day challenges inherent to working with fonts

Description	Prices Ex VAT
Font Reserve 1.6 Server Mac/Win	£799.99
Font Reserve 2.6 Win	£49.99
Font Reserve 3.1 Mac	£69.99



A4 and A3 Printers

Digital Photography & Imaging

Digital Video

Audio Visual & Displays

Web & Internet

3D Design

Pre-Press & Production

Illustration & Graphics

Business & Utilities

Networking & Connectivity

Peripherals & Accessories

Elite XL 20/600

The affordable workhorse with oversized printing capabilities



The Elite XL 20/600 printers are high-octane performers in more ways than one. Printing at a full 20 pages per minute: that's one page every three seconds. So because they print faster, you'll be done faster.

The Elite XL 20/600 comes standard with a 500-sheet universal paper tray along with a 150-sheet multi-purpose tray to handle envelopes and transparencies. The optional second and third paper feeders will support up to two additional 500-sheet paper trays for a total maximum tray capacity of 1,650 sheets, so you can mix and match letterhead, second pages and memo paper.

- ✓ 600 x 600dpi resolution
- ✓ 20 pages per minute
- ✓ Oversized printing up to 13" x 35.5"
- ✓ Letter/A4, tabloid/A3, legal, envelope, poster
- ✓ 500-sheet universal tray
- ✓ PostScript® Level 2, PCL 5
- ✓ 35 PostScript® fonts
- ✓ 15 PCL fonts
- ✓ 45 Downloadable fonts
- ✓ 16MB RAM expandable to 64MB
- ✓ First year Platinum Exchange Warranty
- ✓ Cross platform

Description	Prices Ex VAT
Elite XL 20/600 Laser Printer	£825.99
Elite XL 20/800 Laser Printer	£1,099

Elite XL 20/1200

Affordability, flexibility and high performance in a workgroup printer



The Elite XL 20/1200 can handle a huge variety of paper sizes, including poster/banner paper up to 13" x 35.5". Each also supports up to four paper feeders simultaneously so you can concentrate on doing your job, without having to jump up to change paper trays in the middle of a project.

GCC's achievements go far beyond extraordinary paper handling. Their printers connect to Windows, Macintosh, DOS, and UNIX computers with new levels of efficiency and productivity. The Elite XL 20/1200 gives your business something else: real affordability.

- ✓ 1200 x 1200dpi resolution
- ✓ 20 pages per minute
- ✓ Oversized printing up to 13" x 35.5"
- ✓ Letter/A4, tabloid/A3, legal, envelope, poster
- ✓ 500-sheet universal tray
- ✓ PostScript® Level 2, PCL 5
- ✓ 35 PostScript® fonts
- ✓ 15 PCL fonts
- ✓ 45 downloadable fonts
- ✓ 64MB RAM
- ✓ First year Platinum Exchange Warranty
- ✓ Cross platform

Description	Price Ex VAT
Elite XL 20/1200 Laser Printer	£1,399

Elite 12/600N

The robust, powerful, all-purpose printer offering reliability and value



Featuring USB technology, the 12 N Series is easily connected and installed to your computer in minutes, including faster communication and greater expandability. Connecting to your company's network with an Ethernet connection, the 12 N Series allows you to print from multiple computers, even across platforms, as these versatile printers support TCP/IP protocol, as well as AppleTalk networking.

Simply put, you won't find a harder-working printer. Each 12 N Series printer cranks out 12 pages per minute. It's networkable right out of the box and can print concurrently with both Macs and Windows machines.

- ✓ 600 x 600dpi resolution
- ✓ 12 pages per minute
- ✓ Max print area: 8.5" x 14"
- ✓ Letter/A4, legal, envelope
- ✓ 250-sheet universal tray
- ✓ PostScript® Level 2, PCL 5
- ✓ 35 PostScript® fonts
- ✓ 15 PCL fonts
- ✓ 45 downloadable fonts
- ✓ 8MB RAM expandable to 64MB
- ✓ First year Platinum Exchange Warranty
- ✓ Cross platform

Description	Prices Ex VAT
Elite 12/600N Laser Printer	£399.99
Elite 1212N Laser Printer	£449.99

Elite 21 N

A4 high resolution high-speed workgroup printer



The GCC Elite 21 Series is the latest addition to the GCC printer family. All Elite 21 printers feature a super-fast PowerPC processor and a 1200 dpi print engine, producing output up to a blazing 21 pages per minute. Each Elite 21 model ships with 10/100 BaseT Ethernet standard for easy cross-platform networking.

What's more, the Elite 21 Series includes valuable time-saving features to increase your productivity. With transmit-once collation, your job is sent to the printer just once, no matter how many copies you select to print. Enjoy the luxury of multiple original prints without tying up your computer, or the network.

- ✓ 1200 x 1200 dpi resolution
- ✓ 21 pages per minute
- ✓ Max print area: 8.5" x 14"
- ✓ Letter/A4, legal, envelope
- ✓ 550-sheet universal tray
- ✓ PostScript® Level 2 & PCL 6 compatible
- ✓ 136 PostScript®/80 PCL fonts
- ✓ First year Platinum Exchange Warranty
- ✓ Cross platform
- ✓ Connectivity: USB, Ethernet (10/100 BaseT), ECP Bi-directional Parallel

Description	Prices Ex VAT
Elite 21N Laser Printer	£699.99
Elite 21DN Laser Printer	£799.99
Elite 21SE Laser Printer	£999.99

Consumables

The best toners for GCC or other printers



There are a wide range of toners available for GCC printers, so you can choose the right toner for your printer.

All GCC toners are one piece cartridges which are simple, clean and easy to replace.

Description	Prices Ex VAT
Toners	
E21 Toner	£155.99
Elite XL 616 Toner	£173.99
Elite 600 Toner	£89.99
Elite 12 Series Toner	£89.99
Elite 20PPM Toner	£165.99

Accessories

Upgrade your printer's performance capabilities



GCC printers are complemented by a comprehensive range of accessories. Enhance your productivity and add even more flexibility by adding an extra paper tray or duplex unit to your GCC printer.

Description	Prices Ex VAT
Accessories	
Elite 1212 500 Sheet Feeder	
Paper tray	£215.99
E21 500 Sheet Feeder	£235.99
E21 Duplex Unit	£199.99
XL 20PPM Tray + Feeder	£249.99



Elite Colour 16 DN & DNe

A professional, high-speed, all-in-one printer



compatible with USB 1.

The Elite Colour 16 DNe has all the same great features as the Elite Colour 16 DN, plus EtherTalk®, Novell NetWare® (IPX/SPX) and SNMP support.

- ✓ 1200 x 1200dpi resolution
- ✓ 16 pages per minute (colour and monochrome)
- ✓ Duplex standard
- ✓ Input up to 1600 sheets: 500-sheet universal tray standard & 100-sheet multipurpose tray standard
- ✓ PostScript 3/PCL5c
- ✓ 136 PS 3/45 PCL fonts built in
- ✓ Paper sizes up to 8.5" x 14"
- ✓ Supports both Windows and Apple Macintosh machines, allowing for easy use in mixed-platform offices

Description	Prices Ex VAT
Elite Colour 16DN	£1,399
Elite Colour 16DNe	£1,499

best Colorproof 5.0

The affordable proofing system for production



Best Colorproof is now at version 5.0 and introduces some key changes to the product. The Best Colorproof RIP now incorporates true Adobe PostScript 3, integrated spot colour library for Pantone, HKS and Toyo, brand new spot colour management and new printer support.

Version 5.0 makes it even easier to achieve consistent colour output on an inkjet or laser printer. The integration of Adobe PostScript 3 with Colorproof has added an over-printing function and can now support In-RIP separation for composite workflows and 2-byte fonts.

- ✓ Supports a variety of printers to give you greater flexibility
- ✓ Two on-screen previews makes sure that you won't miss anything
- ✓ ICC colour management guarantees colour-accurate prints every time
- ✓ Up to 15 input channels means that you work more and wait less
- ✓ A scalable pre-press solution for anyone involved in publishing

Description	Prices Ex VAT
Best Colorproof Laser 5 Win	£1,074
Best Colorproof M 5 Win	£895.99
Best Colorproof XL 5 Win	£1,325
Best Colorproof XXL 5 Win	£1,750



Best Colorproof proofs two on-screen previews: fast preview and printing preview (colour-accurate representation of the entire printing page)

best Designer Edition 3.0

The ideal proofing solution for creative designers



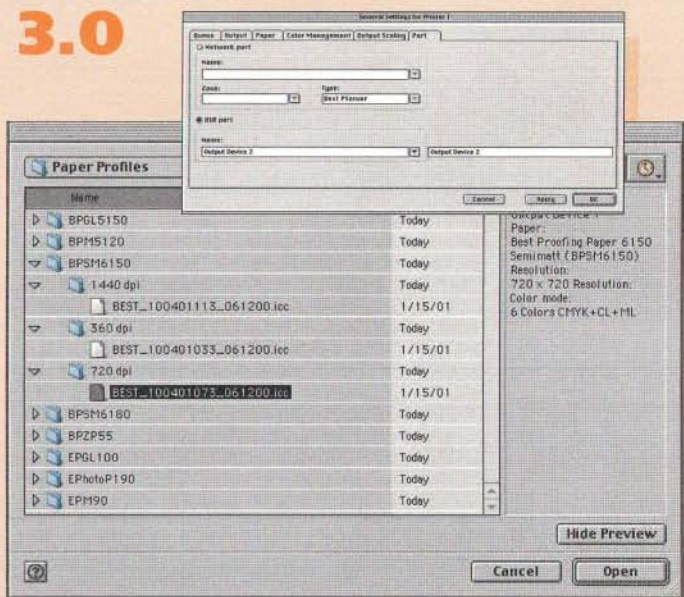
Best Designer Edition has been re-engineered, delivering version 3.0 which incorporates true Adobe PostScript 3 in a native OS X application.

Best Designer Edition turns a number of popular desktop printers into a powerful, yet cost-effective digital proofing system. Get full control over your digital proofing needs and save time, money and hassle.

The functions of the software are displayed in a direct and clear fashion. The main program window can even be customised to fit users individual preferences. Jobs being processed through the RIP are easily accessed in the Job List. Information like job status and process time are displayed and, with one mouse click, a detailed, colour-managed preview is created.

- ✓ Easy-to-use digital proofing solution for designers, prepress providers and the production stage.
- ✓ Runs on Power Mac G3 or G4, iMac, eMac, PowerBook G3 or G4 or iBook, requires Mac OS X 10.2.1 or higher
- ✓ ICC colour management
- ✓ True Adobe PostScript 3™
- ✓ Paper profiles already included to save you time
- ✓ The included Ink Assistant lets you recalibrate your printer quickly

Description	Prices Ex VAT
Best Designer Edition M Mac	£425.99
Best Designer Edition XL Mac	£625.99



The Best Designer Edition queue appears as a normal printer in your network, so any Macintosh computer in the network can access it

best PhotoXposure 5.0

What you see is what you get!



PhotoXposure is now at version 5.0 and introduces some key changes to the product. The Best PhotoXposure RIP now incorporates true Adobe PostScript 3, integrated spot colour library for Pantone, HKS and Toyo, brand new spot colour management and new printer support.

The software separates your picture data into CMYK colour data and simulates the later printing press result (proof). Also the

production of your pictures in editions of small numbers of copies is possible while using the maximum possible colour spectrum your printer offers.

The integrated production tools support the scaling, rotating and cropping of your pictures. Also oversized banners and posters are possible – Best's tiling feature lets you separate the final image into multiple smaller pieces that you can join at a later time without any problem.

- ✓ RGB workflow guarantees the maximum colour space
- ✓ ICC colour management protects your colour choice
- ✓ Specially-designed interface makes it simple and easy to use
- ✓ Best PhotoXposure saves you time by printing while still processing
- ✓ Separation and proofing solution for digital photographers
- ✓ Supports Tiff, JPEG, EPS and PDF 1.3.

Description	Prices Ex VAT
Best PhotoXposure M 5 Win	£895.99
Best PhotoXposure XL 5 Win	£1,325
Best PhotoXposure XXL 5 Win	£1,750

best Photo Edition

An easy-to-use digital photography solution



Present your customers with an accurate colour prediction of your prints results or provide pre-press with a clear picture of the versatility you are looking for in colour terms with Best Photo Edition. Colour balance brings quality to your work – Best Photo Edition helps you to achieve a reliable digital image workflow.

We can offer you improved communication, accurate colour prediction in print, and guaranteed production reliability to simplify

your work and improve your efficiency. Best Photo Edition converts your camera's RGB data into printable data which you can use to obtain a digital colour proof that will already show you what the final printing press result will look like.

- ✓ Separation and proofing solution for photographers and photo labs
- ✓ Allows you to guarantee authentic colour reproduction
- ✓ Specimen printout option allows you to check the final print exactly
- ✓ RGB workflow allows you to work directly from the inkjet printer
- ✓ ICC colour management produces colour accurate photos every time
- ✓ Paper profiles already supplied in the package to save time and energy
- ✓ Print preview function allows you to correct errors before going to print
- ✓ Supports PostScript, TIFF, EPS, PDF and JPEG for optimum results

Description	Prices Ex VAT
Best Photo Edition M Mac	£325.99
Best Photo Edition XL Mac	£625.99

EPSON Stylus PRO 4000

A professional-quality A2 printer on your desktop

The EPSON Stylus PRO 4000 is a revolutionary step forward in the competitive world of wide format colour printing. Now you can combine truly professional consistent colour quality with speed, flexibility and ease of use – all in a robust desktop design and at an impressively low cost of ownership.

Photography & Fine Art

The EPSON Stylus PRO 4000 uses 8-colour EPSON UltraChrome ink technology to create natural skin tones, add depth and detail to images, and improve greyscales in both colour and monochrome images. Stunning colour and black-and-white results are easier to achieve even on media up to 1.5mm thick.

In addition, prints are ready to use immediately after printing, and are resistant to fading, keeping them as good as new for up to and beyond 75 years, in ideal conditions and on the right media. Simple in-house production eliminates the need for a skilled operator at remote sites, which means you can keep control of every job, respond to last minute changes and launch new promotions quickly.

Proofing

The EPSON Stylus PRO 4000 makes industry-standard proofing available at a fraction of the traditional cost. EPSON UltraChrome ink technology offers a wide colour gamut, ensuring accurate colour proofing, with remarkable consistency and repeatability achieved across the page and between multiple copies. This printer is a superb solution for design agencies, printers, repro houses and publishers requiring an accurate proofing system capable of industry standard proofs.

CAD, GIS and Industrial Design

The EPSON Stylus PRO 4000 achieves high-quality output at impressive speeds, which is ideal for industrial designers and architects who need to print accurate, impressive CAD materials and plans for clients, colleagues or contractors.

EPSON's UltraChrome ink technology enables excellent results to be achieved, with superb colour and precise line work for striking maps, plans and designs.

Display, Signage and Point-Of-Sale

The EPSON Stylus PRO 4000 is ideal for in-house printing such as point-of-sale and indoor or outdoor display materials. The vibrancy of colour obtainable with the EPSON UltraChrome ink is a great way to reinforce your promotional messages, with image colours that stand out extremely well on many different types of media up to 17" in width.

Key Features

- ✓ Reliable EPSON Micro Piezo™ technology
- ✓ 2880 x 1440dpi resolution
- ✓ Impressive combination of speed and quality
- ✓ EPSON Ultra Micro Dot™ technology
- ✓ Variable-sized Droplet technology
- ✓ EPSON UltraChrome™ 8-colour ink set, including light black ink, for superior photo prints and a wide colour gamut
- ✓ Two ink set configurations - 1 x 8-colour, 2 x 4-colour
- ✓ Driver automatically switches between matte black and photo black ink, depending on media type selected
- ✓ High capacity cartridges handle overnight or unattended printing
- ✓ Easy to use and operate
- ✓ Large backlit LCD panel for printer information
- ✓ Image lightfastness in excess of 75 years in ideal conditions with correct media
- ✓ Standard USB 2.0 and FireWire connectivity
- ✓ Optional Type B Ethernet network interface
- ✓ Mac and PC compatible
- ✓ Optional GrayBalancer software
- ✓ Large format performance in a convenient desktop size
- ✓ 110 and 220ml ink capacity
- ✓ Intellidrive cartridge system for ink level control even on re-inserted cartridges



The EPSON Stylus PRO 4000 uses 8-colour EPSON UltraChrome ink technology to create natural skin tones, add depth and detail to images, and improve greyscales in both colour and monochrome images

- ✓ Handles PS/EPS, PDF, TIFF and JPEG file formats
- ✓ Hot folder & setting support
- ✓ Job control functionality
- ✓ ICC-based colour management
- ✓ W 848mm x D 765mm x H 354mm (paper tray storage min. size)
- ✓ W 848mm x D 1105mm x H 354mm (paper tray expand max. size)
- ✓ 2x4 colour mode: Up to 20.9m²/h (plain paper/draft mode)
- ✓ 8-colour mode: Up to 13.3m²/h (plain paper/draft mode)

Configurations

- ✓ EPSON Stylus PRO 4000-C8: An 8-colour configuration for the professional photographer, fine artist and proofing market
- ✓ EPSON Stylus PRO 4000-PS: An 8-colour configuration for the design agency, professional photographer or fine art production facility with

the need for a PostScript RIP

- ✓ EPSON Stylus PRO 4000-C4: A dual CMYK colour configuration (2 x 4) for the CAD and POS markets

Complementary Products

Stitcher 3.5p.14

Print out your panoramic images at the size they deserve!

Creative Suitep.39

A comprehensive tool set of Creative and Pre-Press tools

PhotoXposure 5 ..p.43

With this software RIP, what you see really is what you get!

EPSON

Stylus PRO 4000 Promo

The EPSON Stylus PRO 4000 Promotion unit comes bundled with the Gretag Eye-One Display at a saving of more than £80, and a 200 Euro voucher you can redeem against the purchase any Gretag Eye-One Pro device.

Description	Prices Ex VAT
Stylus PRO 4000-C8 - 17 inch (A2) Inkjet Printer (8 Colour)	£1,495
Stylus PRO 4000-PS - 17 inch (A2) Inkjet Printer (8 Colour) - inc StylusRIP	£1,795
Stylus PRO 4000-C4 - 17 inch (A2) Inkjet Printer (4 Colour)	£1,495
Stylus PRO 4000-C4 - 17 inch (A2) Inkjet Printer (8 Colour) - inc Gretag Eye-One Display	£1,645

EPSON Stylus PRO 9600

High quality 44" large format digital colour printer



The 44-inch EPSON Stylus PRO 9600 incorporates the advanced features of the 9000 series, but also includes the long-lasting UltraChrome ink.

- ✓ 7-colour UltraChrome ink set, lightfast in excess of 75 years
- ✓ Prints at up to 17.8m²/hour
- ✓ 2880 x 1440 dpi resolution
- ✓ Excellent colour gradation

Description	Prices Ex VAT
Stylus PRO 9600 Photo	£4,495
- 44 inch (BO+) Inkjet Printer	
Best Colorproof 9600	£6,379
- inc Best Colorproof XXL	
COLOR Proofer 9600 Photo	£5,995
- inc Fiery RIP Spark 2.0	

EPSON Stylus PRO 7600

High quality 24" large format digital colour printer



The new 24-inch EPSON Stylus PRO 7600 7-colour inkjet printer is a force to be reckoned with. It's ideal for large format portrait, commercial photography, proofing, display and fine art printing.

- ✓ 7-colour UltraChrome ink set, lightfast in excess of 75 years
- ✓ Prints at up to 17.9m²/hour
- ✓ 2880 x 1440dpi resolution

Description	Prices Ex VAT
Stylus PRO 7600S Photo	£2,395
- 24 inch (A1+) Inkjet Printer	
Best Colorproof 7600	£3,779
- inc Best Colorproof XL	
COLOR Proofer 7600S Photo	£3,895
- inc Fiery Spark Pro 2.0	

EPSON Stylus PRO 10600

The flagship of EPSON's professional printer line-up – ideal for ALL large format printing

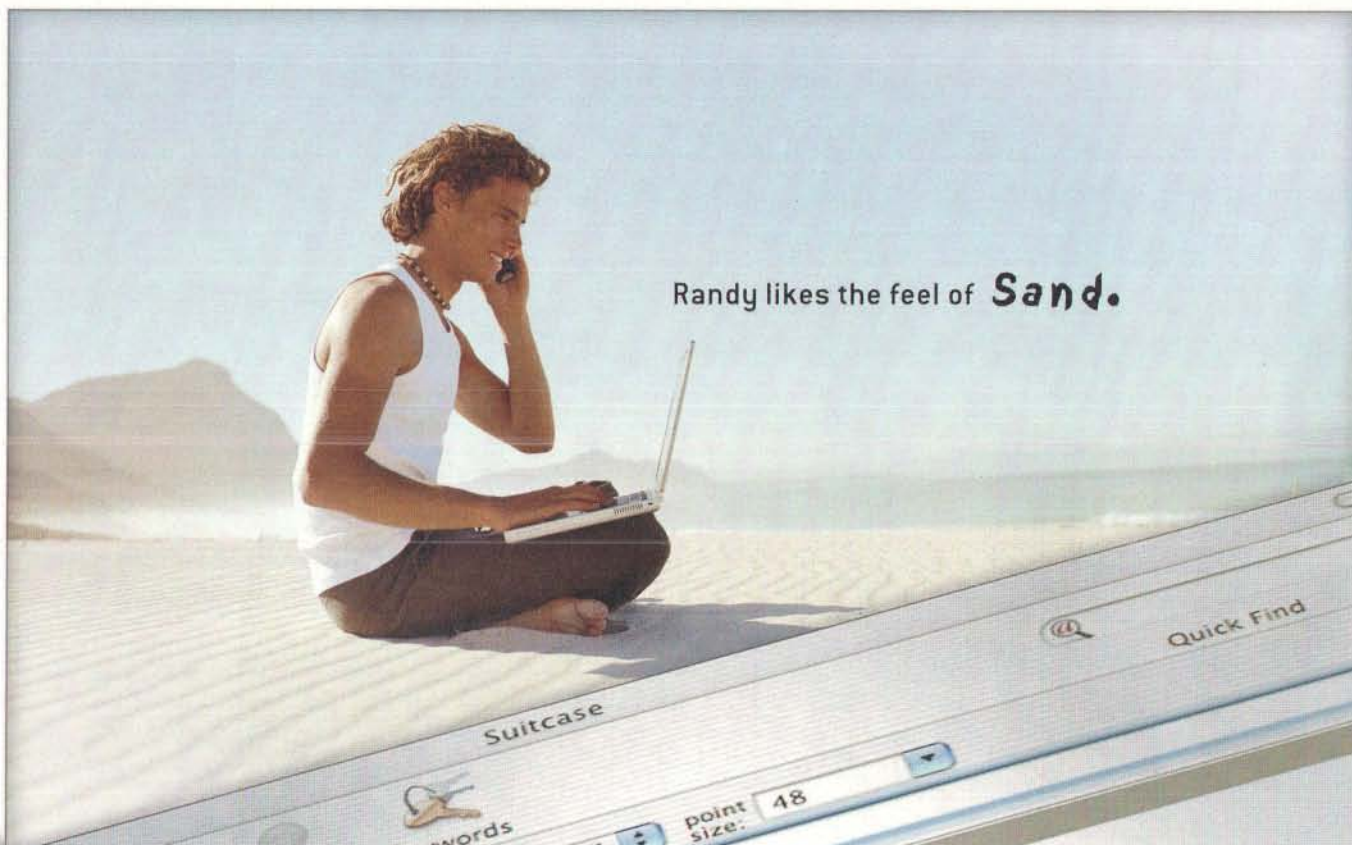


The EPSON Stylus Pro 10600 offers production facilities the finest combination of output quality, print speed and image stability. EPSON's large format Stylus Pro series is renowned for its exceptional Graphics, Proofing and POP/Display output, but the new BO+ (44") Stylus Pro 10600 also has the power to satisfy the requirements of the Professional Photographic and Fine Art markets.

The latest EPSON UltraChrome six-colour ink system ensures outstanding quality, stability and lightfastness, with smooth neutral grey tones and gradations, and the widest colour gamut available.

- ✓ 6-colour printing with changeable photo/matte black inks
- ✓ Print speeds vary from 2.5 m² to a maximum of 20 m² per hour
- ✓ 1440 x 720dpi black and colour
- ✓ Excellent colour gradation
- ✓ Lightfast in excess of 75 years
- ✓ Best combination of wide colour gamut, productivity and durability
- ✓ Parallel, USB, IEEE1394 FireWire and 10/100BaseTx network connectivity
- ✓ High-capacity ink cartridges

Description	Prices Ex VAT
Stylus PRO 10600 - 44-Inch (BO+) Inkjet Printer	£6,995
COLOR Proofer 10600 - inc Stylus RIP Designer XL	£8,890
Best Colorproof 10600 - inc Best Colorproof XXL	£8,879
Best PhotoXposure 10600 - inc Best PhotoXposure XXL	£8,879



Randy likes the feel of **Sand**.



Suitcase X1 | www.extensis.com/X1new

Extensis™

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See page 41

Sports Illustrated

Sports team logos used to do little more than identify a team and promote fan support. But with the current popularity of licensed athletic wear, team logos now play a vital role in the sales of Starter jackets, replica jerseys and other licensed merchandise. Adobe Illustrator CS is ideally suited to this type of work.

National Basketball Association creative director Tom O'Grady recognised the revenue potential in a well-designed, contemporary logo for the Philadelphia 76ers when he contacted Eric Rickabaugh of Rickabaugh Graphics about redesigning the team's identity. Their existing logo, designed long before team athletic wear became a trend, needed to be revitalised with the energy and punch typical of contemporary team logos.

In addition to primary and secondary logo designs, Rickabaugh Graphics came up with team uniform applications incorporating the new logos.

Adobe
Adobe Illustrator CS **Page 47**

A patriotic theme

"The NBA asked us to start with a shotgun approach," says Rickabaugh. "They wanted us to explore a wide range of possibilities." Rickabaugh and his staff obliged by cranking out 40 pencil sketches of design concepts in stride with the patriotic theme of the 76ers. The ideas he presented covered a broad spectrum of stylistic approaches, from historic to contemporary, and incorporated a variety of visual references, including the Philadelphia skyline, a number of patriotic motifs, and basketball imagery.

After considering all of Rickabaugh Graphics' concepts, the NBA's executive team selected a typographic approach that incorporated the 13 stars of the existing logo. "I think, from the start, they were looking for something simple and classic," Rickabaugh says.

New owners, more tweaking

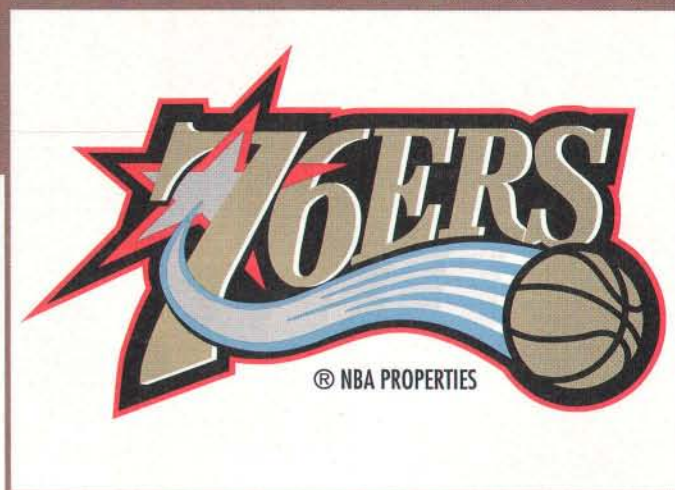
More fine-tuning came when the 76ers' ownership changed. Black was added to the logo's colour scheme to meet new president Pat Croce's vision of a bolder, more contemporary look for the team. The logo was also streamlined by eliminating its 13 stars. But in the final stages of development, Rickabaugh reintroduced a single star into the design. "I felt it needed something that linked it to the past and the patriotic meaning of the name," he says.

Rickabaugh points out that the new logo has accomplished more than providing a slick new motif that rides well on NBA-licensed merchandise. "There are so many other benefits - fan interest, even player interest," he points out. "Projecting a positive, cool image on the field or court also helps recruit talented players. It makes your team a much more appealing commodity to a very broad audience."

The single star in the 76ers logo provided Rickabaugh and his design team with a graphic element that could be developed into shortened versions of the original logo - secondary applications that would offer merchandise vendors additional artwork options. Rickabaugh furnished Adobe® Illustrator® files to NBA creative director Tom O'Grady, who made minor adjustments to Rickabaugh's art for the final versions.

Out of the 40 concept sketches Rickabaugh Graphics submitted, the NBA's management selected this idea, which incorporates many of the same elements as the original logo. Although Rickabaugh drew the type by hand, he based his letterforms on Century.

During the refinement process, Rickabaugh estimates that his firm submitted close to 60 variations of the existing logo design. In



A 1978 graduate of Ohio State University, Eric Rickabaugh worked for area design firms and as design director for OSU's College of the Arts before founding his own business in 1986. Since then, Rickabaugh Graphics has established a national reputation, recognised widely in design annuals and awards competitions.

The Gahanna, Ohio-based firm's work in athletic identity design started in the early '90s with a redesign of Ohio State University's athletic logo, a project that brought recognition and propelled the firm into other team logo designs. "I've always had a lot of interest in this. I love sports," says Rickabaugh, who as a child drew crayon logo designs for NFL teams.

For Rickabaugh, one of the most satisfying aspects of his work is seeing how a well-designed logo can improve his clients' profits. "We've seen some of our collegiate clients increase their licensing revenue 270 percent by introducing a new logo," he says. "It revitalises the market interest."

Other clients for whom Rickabaugh Graphics has designed athletic logos include the Big East Conference, Ohio State University, Vanderbilt University, Drexel University Dragons, and Idaho State University.

For more info, visit:
<http://home.earthlink.net/~rickabaugh/>

Adobe Illustrator CS

A new upgrade of the industry-standard vector graphics software

NEW!



The industry-standard vector graphics software Adobe Illustrator CS is an essential tool for anyone who needs to express ideas visually in print, on the Web and in any other medium. With powerful new 3D features, advanced typographical controls, smooth Adobe Portable Document Format (PDF) integration, enhanced printing options and faster performance, this indispensable design tool helps you explore your creative vision and efficiently publish your artwork anywhere.

Explore your creative vision

Add vitality and impact to your work by exploring an unlimited variety of creative possibilities. New support for 3D graphics lets you easily wrap artwork around shapes,

create packaging mock-ups and produce 3D type effects in no time at all. Quickly twist, warp and liquify artwork using envelopes and live effects, without sacrificing editability. And with flexible transparency options, you can achieve sophisticated results with minimal effort.

Take advantage of essential design tools

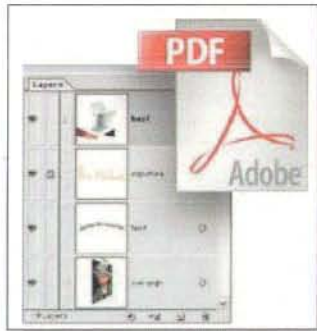
Capture your ideas using powerful tools that make the process of creating and refining artwork easy. Produce polished typography faster than ever with new character and paragraph styles, automatic ligatures and optical kerning. Optimise line breaks and minimise hyphenation throughout an entire paragraph with the Paragraph Composer. Expand your type library with over 25 OpenType® families representing more than 100 fonts. And produce precise results with industry-standard drawing tools, arranged in an intuitive interface that lets you focus on your design.

Work efficiently

Whether you're creating sophisticated print layouts or interactive Web graphics, streamline everyday tasks with robust production tools. Create native Adobe PDF files using

settings and options consistent with Adobe Acrobat® Distiller®. Keep pace with the flow of your ideas thanks to performance enhancements and tight integration with leading Adobe applications and Microsoft Office. Get fast, consistent print results using a streamlined interface and new features like Fit-to-Page, Print Preview and Print preset options.

Addressing specific demands from customers like you, Adobe Illustrator CS delivers not only groundbreaking new design tools but



also the performance enhancements you need to make the most of your creativity. From consistent transparency results to enhanced Adobe PDF integration to reliable print output, Illustrator CS can help you meet whatever design challenges come your way. If you're still using an earlier version of Illustrator, this is the upgrade you've been waiting for.

New Features

- ✓ Turn 2D shapes into 3D objects by extruding portions of your artwork or revolving it around an axis
- ✓ Add bevels to 3D shapes to create chiselled effects
- ✓ Wrap raster images or vector artwork around 3D shapes to easily create packaging mock-ups

Complementary Products

Intuos2p.13

Refine your workflow and increase your productivity with a pen and tablet!

LightWavep.35

Import original artwork and turn it into 3D

Creative Suitep.39

Get Illustrator and four other top products in one box!

Suitcase X1p.41

Keep tabs on your fonts with this award winning tool from Extensis

- ✓ Add realism to your 3D objects by interactively positioning multiple light sources and controlling brightness
- ✓ Give precise vector artwork a loose, hand-drawn look with the live, customisable Scribble Effect
- ✓ Get projects off to a quick start with more than 200 professionally designed templates and over 100 OpenType fonts in addition to clip art and stock photographs – all included free
- ✓ Format individual characters, lines of type or entire paragraphs with a single click using new character and paragraph styles
- ✓ Add polish to your designs with automatic smart quotes and proper ligatures
- ✓ Access a font's extended character set more easily in the new Alternate Glyphs palette
- ✓ Flow text into multiple columns within a text box for easy layout of text-intensive designs
- ✓ Simplify cross-platform font management and take advantage of alternate glyphs and extended character sets with more than 100 OpenType fonts
- ✓ Customise the appearance of tab leaders with bullets, dashes, periods or any other character
- ✓ Reuse designs by saving files as templates that include artwork dimensions, styles, symbols, layers and more
- ✓ Learn how to use the new features in Illustrator CS with the FREE quick-start training video



FreeHand MX

The publishing solution for graphics designers

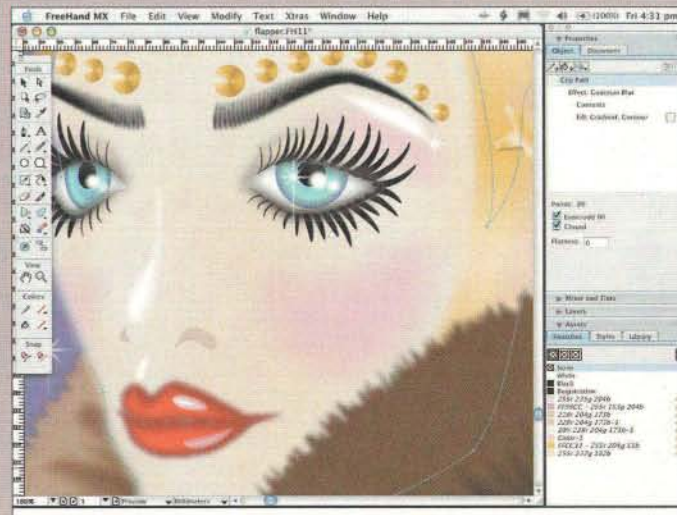


Realise your creative vision with an unparalleled set of creative design tools. Only FreeHand MX has everything you need to move seamlessly from concept through design, production and publishing in a streamlined graphics environment, all while working with a single document. Use FreeHand MX for storyboarding, creative design, multipage document production and editing.

Whether you're designing for print, the Internet or Macromedia Flash MX, you can repurpose your FreeHand MX projects across multiple mediums quickly and efficiently. FreeHand MX has many new features and benefits and allows you to maximise your design process!

Its extensive editing, layout and publishing functions provide an open, streamlined workflow for creating graphics, organising site structures, laying out storyboards and developing click-through presentations. Flexible tools for organising projects, adding interactivity and publishing to SWF make FreeHand MX the best tool for repurposing content for the Internet or for creating new Macromedia Flash MX content.

- ✓ Work in the best workflow environment for conceptualising, designing and presenting graphics
- ✓ Utilise multi-page design and production tools to rapidly create visually complex designs
- ✓ Take advantage of multi-publishing tools of choice to develop content across multiple mediums
- ✓ Reduce production and revision time with features such as master pages and backgrounds and graphical search and replace
- ✓ Quickly plan and organise multi-page Web sites and projects as well as build and present click-throughs, storyboards and Web navigation



FreeHand MX's advanced gradient tools give you full control of your gradients

Description	Prices Ex VAT
FreeHand MX Mac or Win	£299.99
FreeHand MX Download Mac or Win	£284.99
FreeHand MX Upgrade (from 9) Mac or Win	£109.99
FreeHand MX Upgrade (from 9) Download Mac or Win	£109.99



Canvas 9

The professional high-performance drawing environment



If your field is engineering or ecology, marketing or pathology, or practically anything else – CANVAS 9's astounding powers will liberate the way you work. Because it does something no single graphics application has done before: it simplifies everything.

Need to create an exploded view of the X230 turbine while your boss paces at the printer? Or acquire your state's population growth by county, analyse and colour code it by rate of change, then overlay it precisely onto satellite photos – for simultaneous presentation at the podium,

on the Web and in a printed handout? Tomorrow? No matter. CANVAS 9 eats challenges like these for lunch.

Long-known for its robust vector illustration, image editing, page design, presentation and Web graphics feature set, our latest Canvas adds dozens of powerful new tools and abilities – yet presents an uncluttered, instantly familiar face to veterans and newcomers alike. Everything you need is right where you need it.

- ✓ New double floating point, 64-bit coordinate system for precision
- ✓ Virtually unlimited zoom to +/- 114,000%
- ✓ Maximum document size 2000 x 2000 miles
- ✓ 2 billion object limit per document

Description	Prices Ex VAT
Canvas 9 Professional Mac/Win	£279.99
Canvas 9 GIS Mapping Mac/Win	£399.99
Canvas 9 Scientific Imaging Mac/Win	£399.99
Canvas 9 Upgrade Mac/Win	£179.99

COREL Painter 8

Professional tools for total creative freedom



Photoshop, and enhanced performance and stability. Plus many new paper textures, nozzles and patterns. Corel Painter 8 – the ultimate in Natural-Media technology.

- ✓ Mix your own paint colours interactively as you would with paint and a palette
- ✓ Design your own brushes interactively with the Brush Creator
- ✓ Create simple sketches and line drawings from photographs with Sketch Effect
- ✓ Paint with digital watercolour
- ✓ Experiment with over 400 new brushes in over 30 different mediums
- ✓ Experiment with layer masks
- ✓ Ideal for use with WACOM Intuos2 Graphics tablets (P14)

Corel Painter 8 lets you experiment with the widest range of Natural-Media tools available today. Expand your digital painting technique with a portfolio of new features, including a Mixing Palette that realistically mimics the traditional paint mixing experience, digital Watercolour and Sketch effects, and more than 325 brushes in over 30 categories.

Custom create the tools you need with Natural-Media Brush Creator. You'll also find industry-standard layer masks and channels for smoother workflow, a redesigned interface, greater compatibility with Adobe

Description	Prices Ex VAT
Painter 8 Mac/Win	£254.99
Painter 8 Upgrade Mac/Win	£126.99

COREL CorelDRAW Graphics Suite 11

Powerful software for graphic design, page layout, photo editing and vector animation

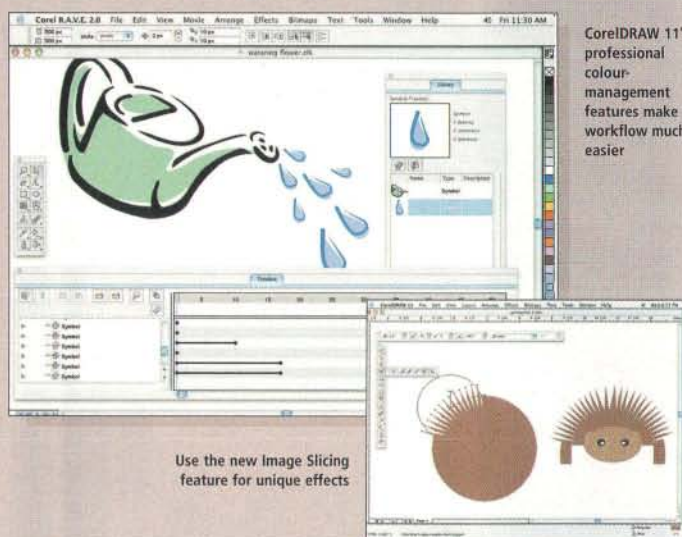


Carefully designed to make work more enjoyable, CorelDRAW Graphics Suite 11 delivers powerful software for graphic design, page layout, photo editing and vector animation. This complete graphics solution features CorelDRAW 11 for page layout and illustration, Corel PHOTO-PAINT 11 for image-editing and Corel R.A.V.E. 2 for vector animation. It offers live feedback, extensive compatibility and a full range of output options. It also reduces the number of steps it takes to complete your tasks.

With more time to create and less hassle, CorelDRAW Graphics Suite 11 lets you enjoy work.

- ✓ Improved and streamlined editing workflows make your work more enjoyable
- ✓ Corel R.A.V.E. 2 helps you add animation to your images to make them come alive
- ✓ Live Effects – work freely and efficiently with real-time feedback
- ✓ Intuitive graphic design for print and the Web for full flexibility
- ✓ Customise your workspace so that it suits your personal needs
- ✓ Polyline tool allows you to create curves and lines in one stroke
- ✓ Image Stitching makes creating seamless panoramas with multiple images or objects a snap

Description	Prices Ex VAT
CorelDRAW Graphics Suite 11 Mac/Win	£389.99
CorelDRAW Graphics Suite 11 Upgrade Mac/Win (from Designer 9)	£194.99



CorelDRAW 11's professional colour-management features make workflow much easier

Use the new Image Slicing feature for unique effects

COREL CorelDRAW Essentials 2

Drawing and photo-enhancing made easy



CorelDRAW ESSENTIALS 2 is a simple-to-use, all-in-one drawing application, with powerful photo-enhancement tools and customisable template capabilities that allow you to create professional-looking projects with ease.

You can produce sophisticated graphics, correct and enhance photos, lay out your project, and publish your work so others can easily access and view it.

Manipulate ready-made templates for fast results. Correct common photo problems and add stunning effects. See your work in real time – and publish it in a range of file

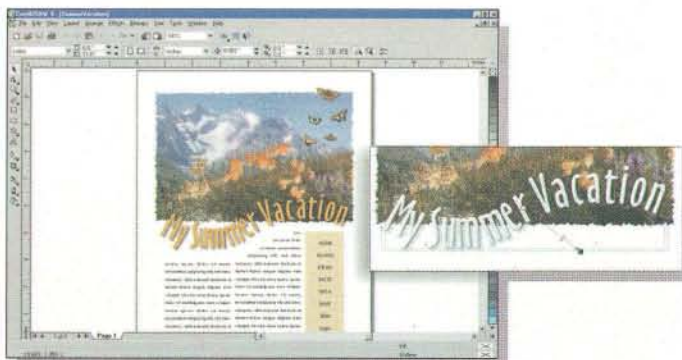
formats. Use the QuickStart Manager to quickly access applications and files so you can start on special projects without delay.

- ✓ Retouch your photos and correct common problems with the click of a mouse, including red-eye, contrast and white balancing
- ✓ Create stunning effects for your photos, including edges, borders, frames, shadows, special colours and perspectives
- ✓ Create realistic fire and lightning effects
- ✓ Store, catalogue, organise and easily find the photos you're looking for
- ✓ Wrap text around objects or photos & organise layouts for print or Web
- ✓ Manipulate ready-to-use PerfectShapes into any design
- ✓ Comes with Corel® Photobook™ for photo retouching and editing
- ✓ Includes Corel Photo-Album, for creating and organising digital photo albums

- ✓ Includes 100,000 clipart images and photos
- ✓ Comes with more than 250

templates and 500 True Type fonts and symbols

- ✓ Includes FREE training CD



CorelDRAW ESSENTIALS 2 lets you sophisticated graphics, correct and enhance photos, lay out your project and publish your work so others can easily access and view it

Description	Prices Ex VAT
CorelDRAW Essentials 2 Win.	£47.99

Money, Managed

How in control are your finances? This is a question that makes some people feel uneasy – generally the people who aren't on top of their money. But it's not as hard as you think, especially with the help of your computer and a few software tools from Intuit.

One of the most interesting facts of the Internet revolution is the new ability people have gained of managing their money electronically. Three key financial e-solutions that address this are Intuit's Quicken, TaxCalc and QuickBooks software.

Consumers can use Quicken and TaxCalc products to manage their e-finances, including downloading bank transactions, tracking credit card spending, managing their investments, even running a home business and preparing and filing their tax returns.

Last year, 10 million on-line money accounts were active in the UK. This was the highest figure for any European country, and by the end of 2003 the figure has been predicted to rise to 11.5 million. Sadly, UK consumers are facing increasing debt, an uncertain job market and reduced retirement savings. Though the consumer need for financial insight and organisation is greater than ever, less than 15 percent of personal computer-owning households use personal finance software.

The biggest issues that small businesses face day to day are maintaining a steady cashflow and dealing with large amounts of paperwork

What you don't know can hurt you. If you don't know what you have today financially, how will you know whether you're on track for the future – or need to take action to make sure you'll be financially okay?

Controlling Personal Finance

Twenty years ago, Quicken was created to revolutionise the way people pay bills and manage their chequebook. One of many competing programs, Quicken quickly rose to become the number-one selling personal finance program of all time by focusing on ease of use.

Today, Quicken XG enables people to track, analyse and automate the process of money management. It empowers people to build a picture of their financial health, understand their finances, make financial chores painless and improve their financial situation.

Quicken XG's new Guided Setup walks you through your specific situation and helps you set up Quicken exactly how you want it. The new "At-a-Glance" view lets you see your account summary and Net Worth in an instant. You can personalise your Quicken XG views and features at any time based on your specific financial situation. Then add or remove functionality at any time to meet your changing needs.

You can always get the most up-to-date services including on-line banking, stock, investment and unit trust prices and downloads, foreign exchange rates, and news and research on investments. You can also get three consultations with a Quicken product expert and hear 1-on-1 advice to help maximise how you use Quicken.



Taking Care of Business

Intuit also delivers powerful e-finance solutions for business. QuickBooks is the world's best-selling business accounting software with more than 5 million businesses worldwide using it to manage their accounts. Targeting small businesses specifically, QuickBooks allows its customers to manage cashflow, reduce paperwork, manage their customers and save time by providing them with a range of easy-to-use accounting tools.

There are over 4 million small businesses currently in the UK, with over 400,000 new small businesses started every year. Around just 20% of these small businesses use an accounting or business management software package.

The biggest issues that small businesses face day to day are: maintaining a steady cashflow; dealing with large amounts of paperwork rather than concentrating on their business; and managing relationships with customers and suppliers.

Maintaining cashflow really does mean life or death to a small business. QuickBooks allows its users to send invoices at the touch of a button, automatically notifies users of any late payments and easily produces reminder letters. Invoices, purchase orders

and sales orders can be e-mailed directly from QuickBooks.

Paperwork is the bane of all businesses. With QuickBooks you can track customers from proposals to invoice to payment to bank account, to ensure that each stage happens on time and is not forgotten.

Staying in contact and building strong relationships with customers and suppliers is paramount to small businesses and reputation makes a big difference. QuickBooks allows small businesses to track their best customers or suppliers, sales and the frequency of orders. Its built in mail merge facility allows a mail merge with a pre-built Word Document (or customised document) and distributes messages at the touch of a button.

QuickBooks assumes no accounting or IT knowledge and different versions provide a solution to meet the differing needs of every small- or medium-sized business.

Making Tax Less Taxing

While TaxCalc has been the UK's best selling self-assessment tax software for several years, it has barely scratched the surface of people it could potentially help. Over 9

million UK residents must self-assess their taxes. Two million of them already file taxes using computers and/or the Internet.

But there is, of course, the other 7 million self-assessment taxpayers – most of whom still struggle through their tax returns armed with nothing but a pencil and grim determination, while the rest have help from professional accountants. To the first group, TaxCalc offers a solution that's so fast and easy, Intuit guarantees they can complete their returns in under 30 minutes or they get their money refunded.

Money is where the product continues to score with the second group. With an RRP of £19.99, using TaxCalc will cost the average taxpayer about £180 less than employing an accountant. Even for those who don't self-assess, you can use the power of TaxCalc to check the tax you are paying.

Quicken, QuickBooks and TaxCalc will help you get your finances in control, whether you're a home user or are running a business. Don't leave your finances up in the air – get them under control with Intuit.

Intuit
Intuit Products

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FileMaker Pro 6

FileMaker's legendary ease-of-use, plus a new world of universal information exchange

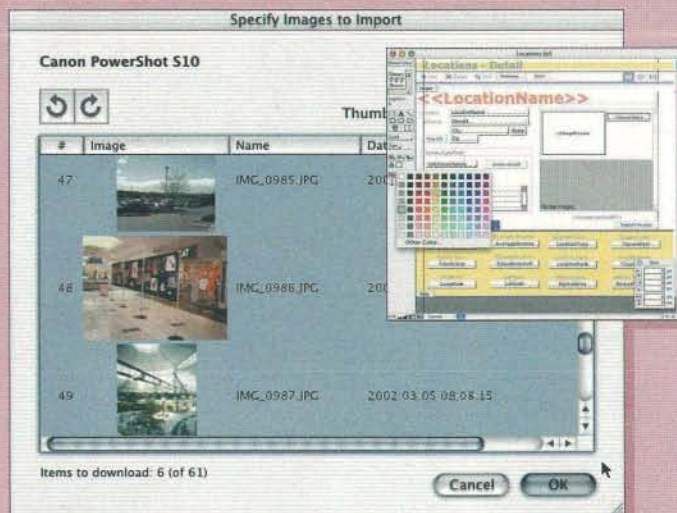


database. With a virtually limitless ability for data exchange and application integration, FileMaker Pro 6 can be your primary data hub to tie projects together and increase your workgroups productivity and collaboration.

- ✓ Instantly publish FileMaker Pro databases on the Intranet
- ✓ Manage richer assets, projects with digital image capture/import
- ✓ More than 20 instant productivity templates to get you up and running in no time
- ✓ Familiar interfaces makes it simple and easy to use
- ✓ Save time with Batch file import, format painter, custom dialogues, etc.
- ✓ Integrated XML support guarantees efficient and swift data exchange
- ✓ Broadest platform and device support for uniform compatibility

Take control of your information with new FileMaker Pro 6. Easily organise and track people, projects, images and information, and then share your data with colleagues over a cross-platform network or your intranet via a Web browser. Boost productivity even more by integrating FileMaker data with the Microsoft Office products you already use. Quickly create a solution to fit your needs, or use one of the included templates to jump start your

Description	Prices Ex VAT
FileMaker Pro 6 Mac/Win	£219.99
FileMaker Pro 6 Upgrade Mac/Win	£119.99



Capture images and their related data directly from your digital camera, or import multiple image files directly from your desktop

FileMaker Developer 6

Author professional custom solutions



Kiosk mode) to your solutions, rename files whilst keeping relationships and links intact, customise menus and more.

FileMaker Developer 6 includes updated ODBC drivers for greater connectivity to corporate data sources, plus in-depth documentation and examples for XML, JDBC and ODBC.

- ✓ Document the structure of any FileMaker solution with Database Design Report
- ✓ The Script Debugger allows you to troubleshoot complicated scripting problems one step at a time
- ✓ Developer Tool allows you to protect your solution by preventing modification of the database structure
- ✓ Developers are able to step through each script line by line for pinpoint editing control
- ✓ Integrated with XML to allow you to share data with lots of applications

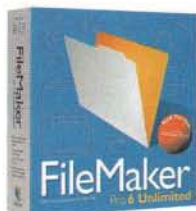
FileMaker Developer 6 includes the functions of FileMaker Pro 6, plus new time-saving developer features. Document the structure of a FileMaker Pro solution at the push of a button with the new Database Design Report. Use the Script Debugger to test your scripts and quickly locate problematic areas within a solution.

New plug-in samples with source code are also included to help you create your own FileMaker Pro plug-ins. Use the updated Developer Tool to add custom features (like

Description	Price Ex VAT
FileMaker Developer 6 Mac/Win	£379.99

FileMaker Pro 6 Unlimited

Enables powerful Web database publishing



Companies can use multiple licensed copies of FileMaker Pro 6 Unlimited to set up a redundant array of inexpensive computers (RAIC) structure to provide load balancing and fault tolerance, and ensure operation through fail-over situations. Web database publishing has never been easier.

- ✓ Instantly publish your databases over the Web
- ✓ Customise your Web solutions with expanded support for script steps for navigation control
- ✓ Leverage leading Web server features and benefits
- ✓ Use a FileMaker layout with links to the Web-hosted databases, intranet pages, and worldwide Web sites your workgroup uses most
- ✓ New record by record security feature
- ✓ Add scalability and fault tolerance to your custom Web solutions

FileMaker Pro 6 Unlimited enables powerful Internet and intranet Web database publishing which brings expanded productivity to the workgroup, helping you manage and share important information over your intranet or Internet.

With the FileMaker Web Server Connector, users can easily integrate FileMaker Pro with robust Web servers to provide increased performance, security and Secure Socket Layer (SSL) support to their Web solutions.

Description	Price Ex VAT
FileMaker Pro 6 Unlimited Mac/Win	£769.99
FileMaker Pro 6 Unlimited Upgrade Mac/Win	£379.99

FileMaker Server 5.5

The database server for growing workgroups



FileMaker Server software, for Windows, Mac OS X, Mac OS and Red Hat Linux, delivers an outstanding database server for network administrators as well as for users of FileMaker Pro 5, 5.5 and now 6. FileMaker Server delivers accelerated networked database performance for up to 125 hosted files.

This high-performance relational engine supports up to 250 FileMaker guests on Windows or Mac platforms simultaneously

with automated back-ups and remote administration tools to monitor server and network activity, and to control guest and file connections. Virtually anyone can use it to optimise their day-to-day workgroup solutions. FileMaker Server 5.5 is so intuitive that any workgroup member can use it to fine-tune their day-to-day workgroup databases. In fact, it's so easy to install and administer, you can be up and running in 5-10 minutes, setting up and configuring your server.

- ✓ Supports up to 250 guests simultaneously with up to 125 hosted files per server
- ✓ Reduced network traffic and improved guest performance guarantees optimum performance
- ✓ Enhanced remote database administration function for better distance connectivity
- ✓ Automatic update of plug-ins keeps you up to date

Description	Prices Ex VAT
FileMaker Server 5.5 Mac/Win	£769.99

FileMaker Mobile 2.1

Take your FileMaker Pro 6 data on the road!



FileMaker Mobile is the synchronisation-based add-on to FileMaker Pro. It easily loads the fields and records you require onto your handheld.

View, modify, add and delete records on both the handheld and the desktop. Synchronise your handheld with your desktop database with a push of a button. Take advantage of the full power of the FileMaker Pro desktop application to run reports, automate tasks and crunch

numbers. Compatible with Windows or Mac OS, FileMaker Mobile is designed for individual users working with personal, single-user databases.

- ✓ Combine the portability of a handheld with desktop data functionality
- ✓ FileMaker Mobile continues the traditional FileMaker Pro ease of use
- ✓ Keep data current with two-way synchronisation
- ✓ View, modify, add, and delete records on both the handheld and the desktop
- ✓ The load and go model is an ideal solution for mobile users
- ✓ Easy set-up means you can just load and go - ready in minutes
- ✓ Save time by editing your data on the road, ready for work when you're back in the office

Description	Prices Ex VAT
FileMaker Mobile 2.1 Mac/Win	£359.99
FileMaker Mobile 2.1 Mac/Win Download	£35.99

Desktop DNA Pro

The quickest and easiest way to transfer your data



Whether you buy, lease or recycle Windows PCs, you can upgrade, backup or recover one or hundreds of systems in minutes.

Unlike disk drive cloning software which just copies your hard disk, Desktop DNA is the only system migration utility to move your bookmarks, Start menu, dictionaries and many other personalised settings, plus all of your data files and select applications from PC to PC - be it locally or enterprise-wide.

By letting you choose specifically what is moved and where it's moved, Desktop DNA personalises system migration and preserves your desktop identity.

- ✓ Checks for migration errors
- ✓ Connects and completes in seven easy steps for quick and easy backup and disk cloning
- ✓ User-friendly Wizard Interface gives you even more control
- ✓ Includes a disaster recovery feature
- ✓ Automatic Media Spanning offers scalable data transfer for faster migration
- ✓ Desktop DNA gives you greater flexibility by allowing you to choose your migration type
- ✓ Maintains your personalised settings, bookmarks, dictionaries and more

Description	Prices Ex VAT
Desktop DNA Professional retail package	£29.99
Desktop DNA Professional 1-9 Users (price per seat)	£29.99
Desktop DNA Professional 10-25 Users (price per seat)	£20.99
Desktop DNA Professional 26-50 Users (price per seat)	£19.99

ThinkFree Office

An office suite with a twist!



ThinkFree Office is a powerful suite of productivity applications that enables you to access your files and work from any internet-connected computer!

ThinkFree Office includes:

ThinkFree Write
A powerful word processing application. Read, edit and save files to the Microsoft Word format, or as a Web page with hyperlinks, image maps, frames, tags, etc.

ThinkFree Calc
A full-featured, easy-to-use spreadsheet application that can easily tackle the most

complex analytical tasks. ThinkFree Calc reads and writes Microsoft Excel files and can save a spreadsheet as HTML for easy publishing as a Web page, complete with multiple sheets, images and formatting.

ThinkFree Show
With ThinkFree Show, users can create high-impact presentations including drawings, images, clipart and other graphic features. ThinkFree Show also opens, edits and saves Microsoft PowerPoint files.

ThinkFree Cyberdrive
A secure, Web-based storage account that lets users save their work directly to the Internet. You can log in from anywhere and work on your files!

ThinkFree Folders
An easy-to-use file manager that transfers files and folders between the local hard drive and your Cyberdrive.

Internet Upgrades for 1 Year
Register your copy of ThinkFree Office on the Internet to receive free Internet-based software upgrades for 1 year.

Mac OS X 10.3

The stunning power of Panther is unleashed



Mac OS X has evolved. The fourth major release in just three years, Panther offers breakthroughs in innovation, ease of use and reliability that won't be seen in other operating systems for years, if ever.

New point of view - A completely new Finder provides a vastly improved view of the system, with one-click access to your favourite files and folders.

More than window dressing - Panther introduces a revolutionary advance in productivity for desktop windowing:

Exposé. With advanced virtual and protected memory, Mac OS X lets you have scads of applications open at the same time without fearing data loss if a program crashes. And Exposé lets you see all your open windows at once.

Phone home for FREE - Personal video conferencing has arrived. Panther includes iChat AV so you can have face-to-face conversations in full-screen video over the Internet with an iSight or DV camera.

Digital Swiss Army knife - Panther includes the latest versions of Apple's digital lifestyle and Internet applications. Apple's default browser, Safari, offers pop-up blocking and built-in Google searching. The new version of Mail makes Email easy to read and manage with a threaded view. Preview PDF viewer lets you navigate and search text at lightning speed, and open EPS and PostScript files. And new Font Book lets you preview and install fonts with one click.

Works well with others - Fast User Switching makes it even easier to share your system with other people.

Adobe PageMaker 7

Business publishing made easy

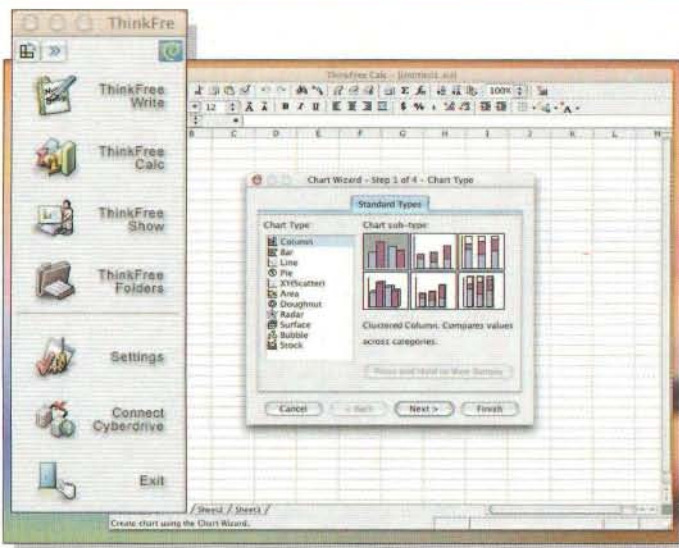


Adobe PageMaker 7 software is the ideal page layout program for business, education, and small and home office professionals who want to create high quality publications such as brochures and newsletters.

Get started quickly with templates, graphics and intuitive design tools; work productively across Adobe applications; and easily leverage existing content to create customised communications. Create a wide variety of publications in Adobe PageMaker 7 from simple one-page flyers to complex reports. Build your own publications from scratch, or take advantage of hundreds of pre-designed templates that you can modify to suit your needs.

- ✓ Take advantage of powerful design tools to create persuasive and effective communications
- ✓ Get up and running quickly with more than 300 professionally designed templates, 4,700 clip-art illustrations and 300 photos
- ✓ Incorporate text, graphics and even images stored in databases quickly and easily into customised publications
- ✓ Make your projects more portable by saving them as tagged Adobe PDF files
- ✓ Typeset your text by using kerning and tracking for a professional finish
- ✓ Place Adobe Illustrator and Photoshop graphics directly into PageMaker for seamless integration

Description	Prices Ex VAT
PageMaker 7 Win	£415.99
PageMaker 7 Upgrade Win	£79.99
PageMaker 7 Mac	£415.99
PageMaker 7 Upgrade Mac	£79.99



Calc can save spread-sheets as HTML for easy publishing as a Web page

Description	Price Ex VAT
ThinkFree Office 2.1 Mac or Win	£42.99



Mac OS X 10.3 sports new windows-management feature Exposé, which lets users see all of their open windows at once

Description	Price Ex VAT
Mac OS X 10.3	£84.99

Intuit QuickBooks 2003

The number-one accounting software for small businesses

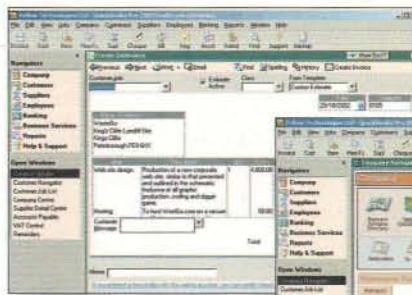


Introducing the NEW comprehensive QuickBooks 2003 range from Intuit. QuickBooks comes in three different levels so that you can choose the perfect package to suit your required needs. Each level is progressively more feature rich and comprehensive allowing you to choose your own level and buy a product that fits it. QuickBooks 2003 is fast and easy to set-up, learn and use.

It saves you time and money straight away! Enjoy the convenience of having all your financial information organised in one place. You have not experienced fast, easy and comprehensive small business

accounting until you have used QuickBooks 2003. Choose between QuickBooks Regular, QuickBooks Pro and QuickBooks Premier!

- ✓ QuickBooks makes managing small business finances faster & easier
- ✓ Three versions to choose from
- ✓ QuickBooks 2003 is easier to use and more flexible than ever before
- ✓ This NEW version offers advanced tools that increase your productivity
- ✓ The fastest, simplest way to run a small business
- ✓ Exciting new timesaving features and integration with more business applications
- ✓ Advanced options for backing up your data
- ✓ More options for printing forms and reports
- ✓ Specialised solutions for accountants, contractors & retailers
- ✓ More than 100 new timesaving templates



Enjoy the convenience of having all your financial information organised in one place

QuickBooks 2003 is available in special editions tailored for your industry and customisable for your company (see below)

Description	Prices Ex VAT
QuickBooks 2003 Regular Win	£127.99
QuickBooks 2003 Pro Win	£255.99
QuickBooks 2003 Pro with Payroll Win	£297.99
QuickBooks 2003 Premier Win	£382.99
QuickBooks 2003 Pro 2-User Win	£425.99
QuickBooks 2003 Pro 5-User Win	£765.99

Intuit Quicken XG

Take control of your finances in as little as 5 minutes!



Quicken XG provides you with the fastest and easiest way to manage your money.

Quicken XG offers all the same features as previous versions, plus a whole new level of service and great new benefits so that you can manage your personal or small business finances with even greater ease and accuracy.

Quicken's new Guided Setup walks you through your specific situation and helps you set up Quicken XG exactly how you want it. Personalise Quicken XG at any time based on your specific financial situation.

Download your bank accounts, update stock, investment and unit trust prices, download foreign exchange rates and get UK investment news. Schedule Quicken XG to update automatically!

- ✓ The fastest and easiest way to manage your money
- ✓ New Guided Setup walks you through your specific situation
- ✓ New "At-a-Glance" view lets you see your account summary and Net Worth in an instant
- ✓ Personalise Quicken XG based on your specific financial situation
- ✓ Add or remove functionality at any time as you need it
- ✓ Download your bank accounts, update stock, investment and unit trust prices, download foreign exchange rates and get UK investment news

Description	Prices Ex VAT
Quicken XG	£51.99
Quicken XG Start Up Edition	£17.99

Intuit Customised Editions

Accounting software tailored to your business



QuickBooks Customised Editions are an accounting solution tailored for your business! QuickBooks Customised Editions make managing your finances fast and easy with a full range of features designed for your specific needs.

Consultant:

- ✓ Great for computer/management consultants, architects, lawyers
- ✓ Handle costing, proposals, invoicing, track profitability by client

Property Management:

- ✓ For private and commercial rentals,

storage and more

- ✓ Set up & track multiple properties, tenants, rental rates and vacancies; manage deposits, leases & repairs

Contractor:

- ✓ For plumbers, electricians, carpenters, painters, bricklayers
- ✓ Handle job costing & reports, track and print orders for estimates and track rates by employee by job

Not-for-Profit:

- ✓ For associations, charitable/religious organisations, alumni groups
- ✓ Track membership and donations, fund accounting and budgeting

Retail:

- ✓ For gift shops, cafés, specialty stores
- ✓ Track sales by item, rep and customer and get stock updates

Description	Prices Ex VAT
QuickBooks Customised Editions Win	£170.99

Intuit TaxCalc

The fast and easy way to complete your tax return

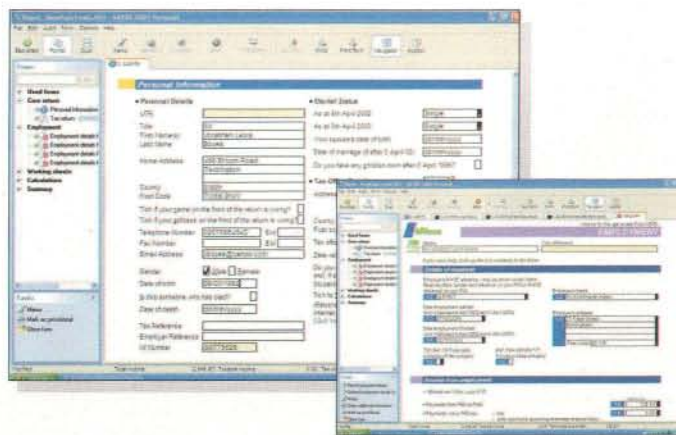


TaxCalc 2003 is an easy-to-use program that takes the hard work out of Self-Assessment. It calculates how much tax you should be paying for the 2003-2004 tax year, and tells you how to claim any rebate that you are entitled to. All you have to do is enter your personal and financial details on-screen, and TaxCalc will do the rest!

With TaxCalc we guarantee that you'll be able to do your tax return in 30 minutes, or you can have your money back! Additionally, your tax return will be completely accurate or it's FREE, and Intuit will pay any penalties resulting from inaccurate calculation!

In addition to all the familiar features that have helped make it the UK's best-selling tax software, there are many all-new reasons to get TaxCalc this year:

- ✓ New Easy Step option - it's like going through your return with a professional accountant
- ✓ Simplified importation of previous year's information - two or three clicks and you're ready to go
- ✓ "Live Update" automatically updates your software over the Internet as new features become available
- ✓ Over 50 money-saving tips
- ✓ More complete than ever before, TaxCalc now includes every single Inland Revenue self-assessment form
- ✓ "As-you-type" advice
- ✓ New job-related expense checklists ensure you're claiming everything to which you are entitled

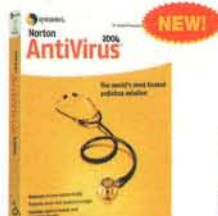


Enter your personal and financial details on-screen, and TaxCalc will do the rest!

Description	Prices Ex VAT
TaxCalc 2003 Win	£17.99
TaxCalc 2003 Win DVD	£17.99

symantec. Norton AntiVirus 2004

Still the world's most trusted antivirus solution



sources automatically – without interrupting your work. Now it can also find viruses in compressed file archives before you open them, reducing the risk of infecting your computer.

- ✓ Works in the background 24 hours a day to protect your system
- ✓ LiveUpdate technology automatically checks for new virus protection updates on a regular schedule
- ✓ LiveUpdate also alerts you when your virus protection is getting outdated
- ✓ Script Blocking intercepts fast-moving script-based viruses such as "I LoveYou" and "Anna Kournikova"
- ✓ Worm Blocking stops worms from using your outgoing Email messages to infect other computers

Symantec's Norton AntiVirus 2004 is the world's most trusted antivirus solution – now with expanded detection of both known and emerging threats.

Norton AntiVirus removes viruses, worms and Trojan horses from Email messages, instant message attachments and other

Description	Prices Ex VAT
Norton AntiVirus 2004 Win	£34.99
Norton AntiVirus 2004 Pro Win	£42.99
Norton AntiVirus 2004 Upgrade Win	£21.99
Norton AntiVirus 2004 SMO 5-User Win	£149.99
Norton AntiVirus 2004 Pro Upgrade Win	£25.99

COREL FlowCharter 2003

The intelligent way to create business diagrams



intuitive ease of use of iGrafx FlowCharter 2003, it's never been easier to create free form, structured and presentation diagrams, not to mention network, process and software diagrams, organisation charts, Web content and more.

- ✓ Auto Connect feature helps you create flowcharts and diagrams in less time
- ✓ Professionally designed templates to get you up and running in seconds
- ✓ Fully extensible via VBA 6.0, it evolves as your business needs grow and increase
- ✓ Single-click Web publishing simplifies getting and keeping your process knowledge base online, with a range of popular output modes to choose from
- ✓ Fully compatible with Microsoft Office, with full OLE functionality
- ✓ Organisation chart building tools with automatic data import

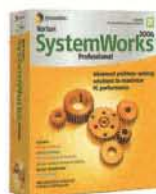
In today's wired work place, clear, concise information isn't a luxury, it's a necessity. iGrafx FlowCharter 2003 provides powerful visual tools that do more than deliver a polished, professional edge; they help users at every level communicate ideas and information instantly and effectively.

iGrafx FlowCharter 2003's sophisticated diagramming power provides professional-quality diagrams with built-in intelligence that can actually aid in critical problem solving and decision making. With the

Description	Prices Ex VAT
FlowCharter 2003 Win	£319.99
FlowCharter 2003 Upgrade Win	£189.99

symantec. Norton SystemWorks Pro 2004

Advanced problem-solving solutions



Symantec's Norton SystemWorks Pro 2004 is the smartest way to solve computer problems, with full versions of award-winning Symantec products and valuable additional utilities.

Norton Utilities helps you repair and optimise disks and prevent future problems. Norton AntiVirus automatically finds and repairs infected files. Dantz Retrospect Express Backup copies files to a wide range

of removable media. A special edition of Alsoft DiskWarrior helps you recover data in emergencies. Aladdin Spring Cleaning safely removes old software.

- ✓ Norton Utilities solves problems easily to keep your Mac or PC running smoothly
- ✓ Features the world's leading anti-virus software to ensure world-class protection
- ✓ Spring Cleaning by Aladdin removes old software to streamline your computer in minutes
- ✓ Retrospect Express Backup by Dantz is ideal for disaster recovery with powerful system repair capabilities
- ✓ Clone one hard drive to another and create disk images for emergencies

Description	Prices Ex VAT
Norton SystemWorks 3 Mac	£85.99
Norton SystemWorks 3 Upgrade Mac	£51.99
Norton SystemWorks Pro 2004 Win	£51.99
Norton SystemWorks Pro 2004 Upgrade Win	£30.99

COREL Process 2003

The ultimate solution for process improvement



winning FlowCharter 7, iGrafx Process represents the next generation of solutions to help you understand and improve your business.

The need for process improvement solutions has never been greater. Fortunately, iGrafx Process 2003 is at the forefront of the next major wave of business process management.

iGrafx Process provides powerful graphical process modelling and simulation, as well as comprehensive diagram creation capabilities. The successor to the 1998 Codie award-winning Optima and multiple award-

- ✓ Time, cost resource and queue analysis tools allow you to pinpoint bottlenecks and correct them
- ✓ Values and process structures can be manipulated, compared and analysed
- ✓ Activities grow or shrink automatically as shapes are added helping the processes keep up with your business perfectly
- ✓ Auto connect function allows you to quickly create flowcharts and diagrams to save time
- ✓ Create, test and simulate any process against infinite scenarios for rapid process improvement capability

Description	Prices Ex VAT
Process 2003 Win	£895.99
Process 2003 Upgrade Win	£385.99
Process 2003 for Six Sigma Win	£1,295

COREL WordPerfect Office Standard Edition

A state-of-the-art office tools suite



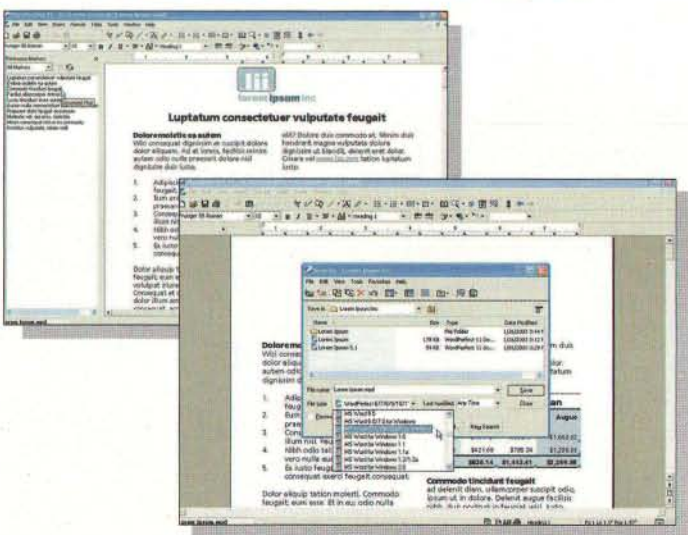
of WordPerfect Office lets you communicate valuable information in virtually any format.

WordPerfect Office 11 is engineered to work with open standards (XML and SGML), de facto standards (PDF and HTML) and competing technologies (Microsoft Office), creating a collaborative, flexible and efficient working environment.

- ✓ WordPerfect – powerful word processing
- ✓ Quattro Pro – versatile spreadsheets
- ✓ Presentations – multimedia presentations
- ✓ Work with files from previous versions of WordPerfect, and import and export Microsoft Word files
- ✓ Author, edit and publish SGML or XML documents
- ✓ Import and export Microsoft Excel spreadsheets

WordPerfect Office 11 isn't just about making an intelligent choice, it's about making use of intelligent tools. An advanced, full-featured suite, it offers extensive control over long documents and formatting. Plus, integration with industry-standard applications and technologies keeps you connected to the tools your colleagues and clients use every day. Whether you're authoring, reusing, sharing or publishing documents, our latest version

Description	Prices Ex VAT
WordPerfect Office 11 Win	£239.99
WordPerfect Office 11 Upgrade Win	£119.99



Share documents across applications and platforms with the formatting intact thanks to powerful PDF capabilities in WordPerfect 10 that now support hyperlinks and watermarks

QuickMail Pro Office 3.0

Professional Email made easy



Is running your business important to you? Wouldn't you like to have one less item to worry about? What if you had an Email programme that worked like a contact manager? Wouldn't it be nice to receive mail from multiple accounts in one window? How about a mail server that handles five or five thousand clients with the same precision and efficiency? What if you had custom Email forms, the ability to unsend and delay send messages, and server-based rules and filters?

With QuickMail Pro Office 3.0, all of this and more is possible! Quickmail 3.0 Server has now been carbonised to work with Mac OS X 10.2 as well as Mac OS 9.1. Now the best Mac mail server product can benefit from the power and stability of Mac OS X.

- ✓ Now supports Mac OS X (QM Client and Server) and Win XP (QM Client)
- ✓ Send and receive messages from multiple accounts for simple, effective organisation
- ✓ Intuitive mail browser for fast, simple navigation
- ✓ Server-based rules automate mail handling for streamlined mail management
- ✓ Address book doubles as a contact manager which is automatically maintained by the administrator to keep your contacts up to date

Description	Prices Ex VAT
QuickMail Pro Office 3.0 5-User Mac Server	£313.99
QuickMail Pro Office 3.0 10-User Mac Server	£591.99
QuickMail Pro Office 3.0 25-User Mac Server	£1,192
QuickMail Pro Office 3.0 50-User Mac Server	£1,945

Keynote 1.1

For when your presentation really counts!



Keynote 1.0 is a new generation of presentation software that brings the ability to create professional-quality presentations to everyone. With Keynote, creating stunning slides becomes fast and simple, giving you more time to focus on ideas and less time on design.

With Keynote, you don't have to start from scratch. Simply import your existing PowerPoint, QuickTime, and PDF files into Keynote. Or, insert Excel data right into

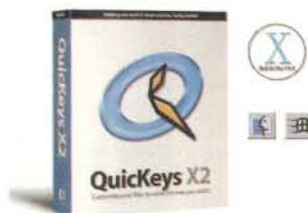
Keynote charts and tables. You can also share your Keynote creations with virtually anyone. Keynote presentations can also be exported to PowerPoint, QuickTime and PDF.

- ✓ Easily create compelling presentations!
- ✓ Create stunning slides with Apple designed themes
- ✓ Move from one slide to the next with cinematic-quality transitions
- ✓ Create presentations with razor-sharp text, charts and tables
- ✓ Easily export your presentation to QuickTime and burn your own data CDs!
- ✓ Import your existing PowerPoint, QuickTime, and PDF files into Keynote
- ✓ Export to QuickTime and PDF
- ✓ Choose from a library of Apple-designed themes

Description	Price Ex VAT
Apple KeyNote 1.1 Mac	£67.99

QuickKeys X2

Still the number-one choice to improve productivity

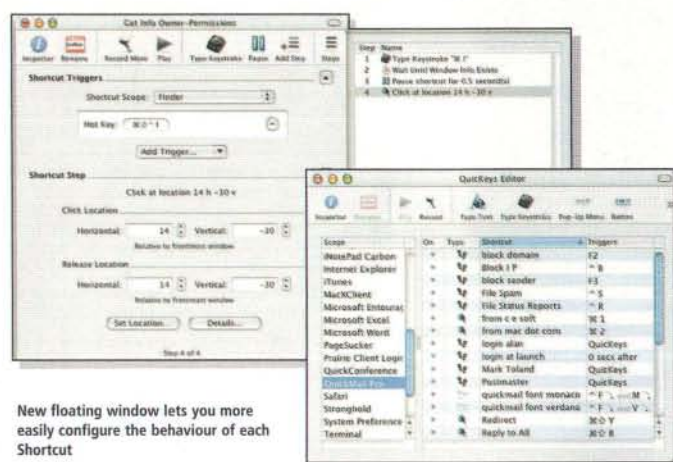


QuickKeys X2 is here and more powerful than ever. New shortcuts for storing and retrieving collections of images and text, pop-up menu selection, recording and playback, a redesigned interface and new multi-step shortcut tools make QuickKeys X2 the best, most powerful macro utility for Mac OS X.

QuickKeys X2 performs shortcuts that automate the computing tasks you do each

day. It takes the daily tasks that would normally require you five... six... twenty or more steps and turns them into simple one step shortcuts. Automate anything from launching programs, mounting servers, selecting menus, and running UNIX commands to typing text or shutting down your Classic environment. Whatever you do, however many steps, QuickKeys saves you time and increases your productivity.

- ✓ Use hot keys to trigger QuickKeys Shortcuts
- ✓ Create toolbars that contain buttons for any or all of your Shortcuts
- ✓ Set timers to activate Shortcuts daily, on specific days of the week, or on a specific date & time
- ✓ QuickKeys will watch and record your actions so you can play them back at any time
- ✓ Designate shortcuts to work only in certain applications or all applications



New floating window lets you more easily configure the behaviour of each Shortcut

Description	Prices Ex VAT
QuickKeys X2 Mac	£79.99
QuickKeys X2 Upgrade (from 1.0) Mac	£29.99
QuickKeys X2 Upgrade (from 1.5) Mac	£19.99
QuickKeys 5.0 Mac (OS 9 only)	£79.99
QuickKeys 2.5 Win	£79.99

EPSON C8600 Laser Printer

A powerful and high quality colour laser printer



The EPSON AcuLaser C8600 is the perfect professional printing solution for users who require exceptional quality colour and mono output on a range of media formats from C5 up to A3W size - simply, at high speed and with built-in flexibility. It is particularly suitable for producing visual aids, training material, business reports, spreadsheets, charts and Computer Aided Design (CAD) images.

The heart of the AcuLaser C8600 is its powerful printer controller. A 400MHz processor and a uniquely designed EPSON AcuLaser Colour ASIC combine to ensure maximum throughput of even the most demanding colour print jobs.

- ✓ Fast print speeds - up to 8ppm colour, 35ppm mono
- ✓ High quality output with EPSON AcuLaser 2400dpi RIT
- ✓ Versatile paper handling up to true A3 with full bleed and crop marks
- ✓ 400 MHz RISC processor with EPSON AcuLaser Colour ASIC
- ✓ Standard 64MB memory expandable to 1024MB
- ✓ 400 Sheet paper capacity expandable up to 1400 Sheets
- ✓ USB and 10/100BaseTX Ethernet
- ✓ Professional high performance A3W colour laser printer
- ✓ Advanced job management

Description	Prices Ex VAT
AcuLaser C8600 Colour Station	£5,739
AcuLaser C8600PSDT - A3W Colour Laser, 384MB, Ethernet, PS3, LCF, HDD	£5,599
AcuLaser C8600PS - A3W Colour Laser, 192MB, Ethernet, PS3	£3,879
AcuLaser C8600 - A3W Colour Laser, 64MB, Ethernet	£3,265

creo Tokens

Send cumbersome files with ease via Email



creo Tokens is the smarter way to transfer files because it makes sharing files secure, reliable, efficient, easy, and all through Email - the tool you use everyday.

You communicate daily with Email, sending documents to colleagues, clients, customers and friends. However sometimes it's difficult to send files in an Email. Some files may be too large or you may need to send many. Creo Tokens inexpensively solves this dilemma - with just one click.

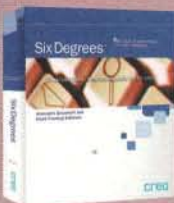
Tokens is a file sharing solution for large or awkward files and folders that are otherwise too cumbersome to send via Email. The Creo Token Creator easily creates a 'token' (.tkn) that includes many files, graphics or group of folders. The Token Creator compresses, encrypts and copies the source file either locally or on a Creo Token Server. The token that is created is only a few K, regardless of how big the original file(s) are. Then Email this small .tkn to your recipient, who can then access the file referenced by the token by downloading the free Token Redeemer. No passwords, no set up, no problem sharing files!

- ✓ Easy - Attach the token in an Email with no size restriction or passwords
- ✓ Efficient - Uses the HTTP protocol
- ✓ Secure - Files are secured with 128 bit AES encryption
- ✓ Economical - Reduces costs associated with on-line file transfer, namely FTP or CD duplication

Description	Price Ex VAT
Creo Tokens Server + 10 Clients Win/Mac	£395.99

creo Six Degrees

One click to everything on your desktop



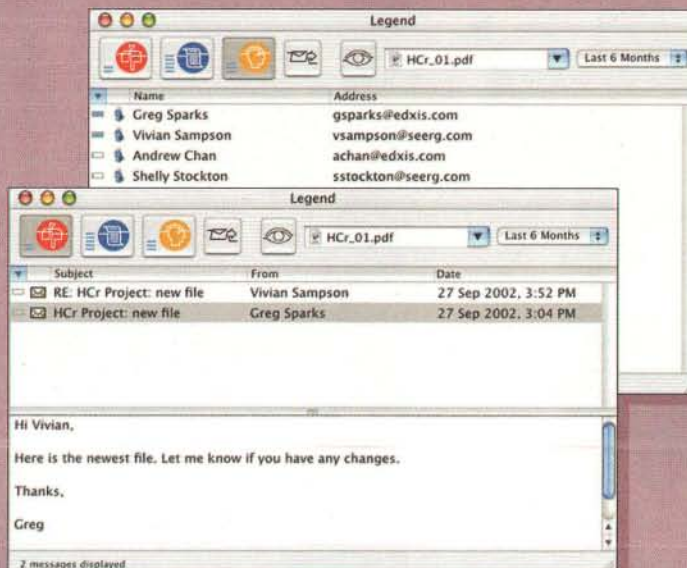
Degrees puts navigation of important information at your fingertips.

Six Degrees works by continually making connections between the messages you send, the files you create and the people you work with. These connections make it possible for you to navigate your desktop much faster, and keep you updated on important project information.

- ✓ Track files anywhere on your system at the touch of a button
- ✓ Email threads relate to any file on your desktop, providing total connection
- ✓ Email filters take the guesswork out of finding the right Email at the right time
- ✓ Automatically update projects with one click to save time and energy
- ✓ Helps you find files without searching - even mis-files and attachments

Six Degrees is a desktop application that automatically creates and updates a database of links to the messages you send and receive, the files you create and the people you work with. Ideal for anyone who uses Email to drive projects, share files and interact with clients and co-workers. Six Degrees saves you time by accurately tracking files with similar names anywhere on your system.

By showing Email threads related to any file on your desktop and generating Email filters based on projects or people, Six



Six Degrees software is time-freeing technology that uses the simple things you already do to build and track projects automatically

Description	Prices Ex VAT
Six Degrees 1.5 Mac or Win	£49.99

DataViz® MacLinkPlus Deluxe 14

Don't get caught with a file you can't open!



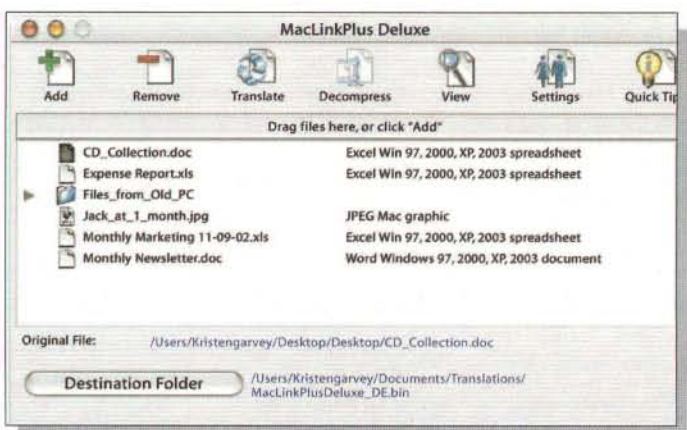
X's new simple and elegant Aqua user interface and users have easy access to MacLinkPlus via the new OS X Dock. There is also increased stability in OS X's protected memory environment.

- ✓ The #1 file conversion utility for the Mac!
- ✓ Easily open unreadable Email attachments
- ✓ Convert virtually any file regardless of where it comes from - with a double-click
- ✓ MacLinkPlus Deluxe 14 now supports Word and Excel 2003 for Windows
- ✓ Supports AppleScripts for the power user, allowing you to automate redundant tasks
- ✓ New QuickTips have been added to give you important information during conversion
- ✓ Integration with the OS X Address Book so you can send and receive files more quickly

Don't get caught with a file you can't open! MacLinkPlus Deluxe is the number-one-selling utility to convert and use Windows files on your Mac.

It supports the latest programs like Word 97-2002, WordPerfect 9.0, and more. Plus, it now opens unreadable Email attachments. MacLinkPlus Deluxe is the must have 'Survival Kit' for Mac users in a Windows world.

Now fully carbonised and compatible with OS X for greater efficiency and performance. MacLinkPlus Deluxe utilises OS

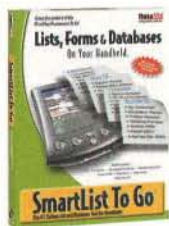


MacLinkPlus Deluxe utilises OS X's new simple and elegant Aqua user interface

Description	Prices Ex VAT
MacLinkPlus Deluxe 14 Mac	£75.99
MacLinkPlus Deluxe 14 Upgrade Mac	£40.99

DataViz® SmartList To Go

The #1-selling list and database tool for handhelds!



In addition, you can synchronise with Microsoft Access and other databases as well as import data from Excel to your handheld. Mobilise your desktop data with SmartList To Go.

- ✓ Helps you save time by handling your database information on the move
- ✓ Supports a range of images to give you greater flexibility
- ✓ Comprehensive passport protection safeguards your information from others
- ✓ 21 different field types allow you to move seamlessly between data
- ✓ High performance database and list management for everyday business needs
- ✓ Over 50 FREE Samples included in the program
- ✓ Search and Download many more FREE SmartLists

SmartList To Go allows you to carry your lists, forms and databases on your handheld. Whether you need to track business expenses or access your personal health guide, SmartList To Go gives you the ability to bring almost anything to your handheld. Quickly create new lists on your handheld or desktop PC and enhance your productivity by taking your info with you wherever you go.

Description	Price Ex VAT
SmartList To Go	£39.99

DataViz® Beyond Contacts

The closest thing to Outlook on your handheld!



Dataviz Beyond Contacts provides everything you need in one easy-to-use package, which allows you to manage your Outlook data for Calendar, Contacts, Tasks and Notes on your handheld, down to the very last detail!

This powerful application goes beyond just synchronisation by providing the same look and feel of Outlook on your handheld, plus it brings all your Outlook data from multiple addresses and categories to

meeting attendees and location. You can also access your Inbox messages on your handheld, making it easy to catch up on e-mail when out of the office.

- ✓ Easily preview of the day's appointments, tasks, and messages!
- ✓ Automatically synchronise all of Outlook's fields to your handheld
- ✓ Includes unlimited categories for Calendar, Contacts, Tasks, and Notes
- ✓ Ideal for Palm OS handheld users who want Outlook data at their fingertips
- ✓ Easily switch between different components of Beyond Contacts
- ✓ The only product to bring ALL your fields and data
- ✓ Integrated Outlook-like handheld applications
- ✓ The power of Outlook with nothing new to learn

Description	Price Ex VAT
Beyond Contacts	£39.99

SDSL: Broadband grows up

Broadband has been hailed as a technology of near-mythic proportions for a long time: Near-limitless bandwidth and availability for next to no cost! A fusion of always-available power and speed for the communications age!

Of course, Utopian Internet access and communications hasn't yet arrived – but there's some good technology out there to genuinely help speed you down that Information Superhighway.

The Need for Speed

ADSL has provided many Internet consumers with a service that offers them relatively high-speed downloads at a sensible price. Of course these people would like more for less, but realistically ADSL is a good solution for that type of user.

But what about the professional user? The Internet producer? The person or company generating lots of data that needs to be sent or served out to customers or consumers?

This is where Symmetric DSL (SDSL) steps in. What the new SDSL – or more precisely G.SHDSL – services offer is high bandwidth both downstream and upstream: You can send out as fast as you can receive.

The widespread introduction of SDSL by BT and the ISPs they supply is a major step forward for companies and individuals who are as much, if not more, focused on sending data rather than receiving it.

For people and businesses specifically creating and delivering Internet content, SDSL makes a very appealing alternative to a leased line connection. It may not always come with the same service level agreements and contention ratios that some larger companies will need, but for many smaller sites or businesses it provides a good solution – especially when backed up with alternative connectivity.

All Lanes Open for Traffic

The symmetric (equal speed both up and downstream) nature of the bandwidth also presents a wide range of new opportunities to users less obviously tied to Internet communications. For instance, the prepress industry has long relied on data communications for moving their relatively large files and images from one part of the workflow to another. ISDN was rapidly adopted by this industry despite its early costs as it represented such an improvement in productivity over traditional courier methods.

However, like many of us, the prepress world has by and large kept with ISDN technology, on the basis of "if it ain't broke, don't fix it". But now the upstream speed and fixed costs of SDSL offer a real reason to re-assess communications in a prepress environment.

Of course, many companies can't simply drop ISDN, as many of their suppliers and customers will be going through similar transitions at varying rates. This is why manufacturers such as Hermstedt have been developing IP (Internet Protocol) support in packages such as Grand Central Pro and completely new products such as the Stingray file transfer server (see below).

New Opportunities

For other businesses, SDSL starts to make new ways of working both possible and realistic. The permanent nature of a broadband link always opened the door to 'telecommuting', 'distributed enterprises' and many other buzzwords, but ADSL was



Symmetric DSL offers high speed connectivity that is perfect for offices with teleworkers and external users connecting in remotely.

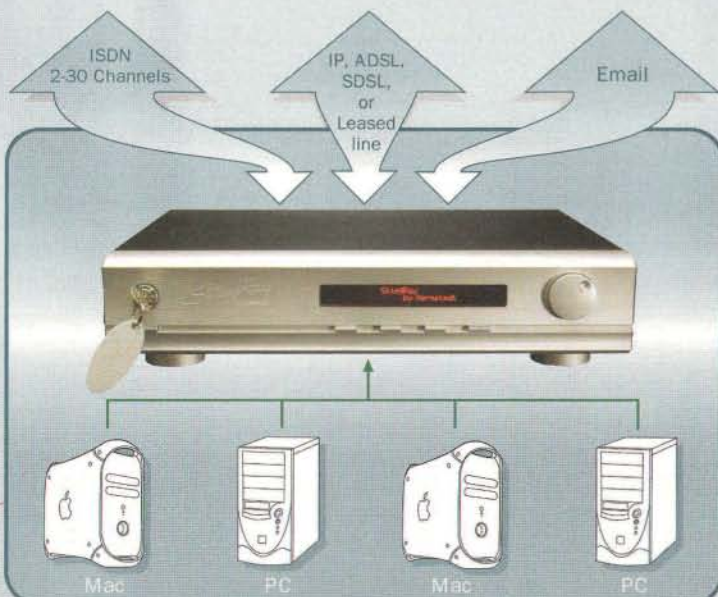
only really suitable for the remote user. Having a fast link into the office is great, but you really need their link OUT to be fast when you're pulling information off a database or downloading files and Email from the office servers. Hence an ideal setup for a teleworker system might have the main office on an SDSL link whilst the individual teleworkers would only need ADSL.

'Distributing your enterprise' or spreading your company over several sites can also open you to the risk of literally spreading

your resources too thinly, with technical or professional support many miles away from the person that needs it.

However, the speed and constancy of broadband links combined with a range of software tools really can overcome this. In some cases, it's actually causing some companies to completely outsource IT support as it is easier and more cost effective for a support company to remotely manage things than for it to be done

Stingray - integrating all your file transfer needs



The Stingray project was started specifically to meet the file transfer needs of the creative industries – speed, simplicity, choice and reliability. Deadlines mean when the file is sent it needs to not only get there fast but also reliably and securely – you need guarantees. Also as budgets tighten, you not only need to use cheaper methods of transfer – you also need to use them seamlessly without spending expensive time fiddling with unfamiliar transfer software. Stingray presents you with a single, very familiar interface for all your outgoing and incoming file transfers. Simply pick one or several addresses from the address book, attach a file or folder and hit send – regardless of whether the recipient is on ISDN or broadband or email... or all three. Similarly Stingray handles all incoming files, whichever means they arrive by, and can even sort them into folders by customer or source.



Timbuktu Pro is a high-performance remote control and Internet communication solution

internally. Does it matter whether the person using Timbuktu Pro or eCare to remotely help you solve problems is based in another of your company sites or not?

SDSL offers many new possibilities and opportunities for anyone who depends on constant broadband connectivity for their business. It could be just the thing your business setup needs.

HERMSTEDT
Communication Products
Hermstedt Products

Page
59

netopia ADSL Routers & Modems for Home

Smart modems & gateways for broadband households



choosing to protect your router.

The Cayman 3300 SOHO Series takes the complexity out of home networking by automatically assigning an IP address to each connected computer. The NAT firewall will ensure your security by hiding the computers' IP address from the Internet. With the Cayman 3341 ADSL router you can connect your computer using either Ethernet or the USB interface and eliminate the need for a network adapter card. Once connected, you can surf the Web or connect to work at any time with always-on connectivity.

The Cayman 3346 includes a 4 port 10/100 switch to make connecting a number of devices quick and easy, whilst the new 3347W combines the power of an ADSL modem, Wi-Fi certified 802.11b wireless access point and Ethernet switch into a single broadband networking solution. With feature-rich functionality, the Cayman 3347W enables customers to host their own game servers, protect their wired and wireless networks from unwanted intrusion, and connect to their corporate network. Netopia's 3-D Reach technology utilises two radio antennas specifically tuned for both

vertical and horizontal range providing seamless wireless coverage with no dropped connections or dead zones.

All the 3300 Series routers are built with the same high-standards that over a million users have come to expect from Netopia.

- ✓ Robust routing, security, and management features optimised for the business user
- ✓ Application specific architecture designed for the small business budget
- ✓ Point-to-Point Protocol (PAP/CHAP authentication)
- ✓ Numbered or unnumbered WAN interface
- ✓ Up to 8 subnets on the LAN, with DHCP server associations

- ✓ User friendly
- ✓ Simple and safe network integration
- ✓ Future flexibility of upgradeable firmware
- ✓ NAT for Secure yet flexible IP Configuration
- ✓ Built-in firewall to protect LAN resources from intruders
- ✓ 3-D Reach for unparalleled wireless performance
- ✓ The Cayman 3300 Series takes the complexity out of home networking by automatically assigning an IP address to each connected computer
- ✓ Protect your computer from unwanted intrusion when surfing the Web or playing online games.

Description	Prices Ex VAT
Cayman 3341 SOHO Series ADSL Router 1 USB + 1 ethernet port	£84.99
Netopia Cayman 3346 ADSL Router Inc 4 Port 10/100 Switch	£124.99
Cayman 3347W SOHO Series wireless ADSL Router inc 4 port 10/100 switch	£199.99
ADSL Splitter/Micro-Filter	£9.99

ASANTÉ FriendlyNET GX5 Gigabit Ethernet over copper switches



NEW!



Gigabit Ethernet switch, the FriendlyNET GX5 is ideal for clustering high-performance servers and workstations. The new GX5 208 combines eight 10/100 Ethernet ports with 2 Gigabit ports, making it perfect for even small workgroups.

- ✓ Send multi-gigabyte images, voice, video and music at the fastest speeds
- ✓ Delivers over 10 times the available bandwidth per port
- ✓ Every port on this switch can accommodate slower 100 Mbps Fast Ethernet
- ✓ Optimised for plug-and-play installation and continuous 24x7 service

Compared with traditional Fast Ethernet hubs, the FriendlyNET GX5 delivers over 10 times the available bandwidth per port. When connecting two high-performance workstations, the FriendlyNET GX5 can transmit at 1000 Mbps and receive at 1000 Mbps simultaneously.

Simply the most affordable, powerful

Description	Prices Ex VAT
Asanté FriendlyNet GX5-208 2 Port Copper Gig and 8 Port 10/100 Switch	£149.99
Asanté FriendlyNet GX5-500 5 Port 100/100 Switch	£149.99
Asanté FriendlyNet GX5-800P 8 Port 100/1000BaseT, palm sized switch	£199.99
Asanté FriendlyNet GX5-800 8 Port 100/1000BaseT, rack mountable switch	£299.99
Asanté FriendlyNet GX5-1300 12 Port 100/1000BaseT and GBIC Port	£749.99
Asanté FriendlyNet GX5-1600 16 Port Copper Gig	£899.99
Asanté FriendlyNet GX5-2400 24 Port Copper Gig and 2 GBIC Port	£1,299

ASANTÉ Network Cards Ethernet and GigaBit support for Macs and PCs



NetWare and other popular operating systems on PCs. GigaBit Ethernet is a great improvement anywhere in your network, and the recent decreases in its pricing mean it's a sensible upgrade. Asanté have a number of switches which allow a number of desktop machines on 10/100 Ethernet to link into a central server.

- ✓ World's most advanced Network Adapters
- ✓ Enjoy the superior reliability that comes with the Asanté brand
- ✓ Dual-platform PC card for high-speed LAN connectivity for mobile notebooks
- ✓ 10/100 Mbps adapters set the standard for both Macs and PCs

The most popular Asanté fast Ethernet adapters support Microsoft Windows 95/98 plus Windows NT/2000, Linux/UNIX,

Description	Prices Ex VAT
Asanté GigaNIX 1000BaseT Copper PCI Card Mac/Win/Linux	£139.99
Asanté GigaNIX 1000SX 1000BaseSX PCI Card Mac/Win	£202.99
Asanté 10/100 PCI card Mac/Win	£47.99
Asanté FAST 10/100 NuBus card	£84.99
Asanté 10/100 PCI card Win	£10.99

ASANTÉ FriendlyNET 10/100 Accelerate your network simply and cheaply



Sharing bandwidth-intensive applications slowing your network to a crawl? Asanté's FriendlyNET 10/100 switches will boost your existing network performance by giving you dedicated bandwidth to each desktop.

Traffic moves directly from point-to-point without slowing down other users, eliminating network bottlenecks. With full-duplex operation on each port, bandwidth is effectively doubled for maximum performance.

Forget about network congestion or slow network response time, Asanté's FriendlyNET 10/100 desktop switches deliver the speed, performance, and security that will satisfy your needs.

- ✓ Fast Ethernet ports (100BaseTX and 10BaseT): RJ-45
- ✓ Negotiates network bandwidth up to 200 Mbps per port (full duplex mode)
- ✓ Outstanding performance in a very compact footprint
- ✓ Integrated 10/100 switch bridges all devices together
- ✓ FREE technical support, software maintenance and complete warranty
- ✓ Delivers speed, performance, security and expandability

Description	Prices Ex VAT
Asanté F55005 FriendlyNet 5-Port 10/100 switch Graphite	£28.99
Asanté F55008 FriendlyNet 8-Port 10/100 switch Graphite	£37.99
Asanté F54116 FriendlyNet 16-Port 10/100 switch, rack mountable	£99.99
Asanté F54124 FriendlyNet 24-Port 10/100 switch, rack mountable	£143.99

THURSBY Software ADmitMac Mac Access for Active Directory & NT Directory Services



ADmitMac, Thursby's newest product offering, allows Macintosh users running Mac OS X v10.2x to participate in Microsoft networks taking advantage of the directory services provided by both Active Directory and NT Directory Services. Administrators can manage their domain users in a consistent way without regard to what kind of computer they use.

ADmitMac uses industry standard protocols to access Active Directory servers. Kerberos is used to provide secure directory access that resists disclosure, spoofing and man-in-the-middle attacks. All communications

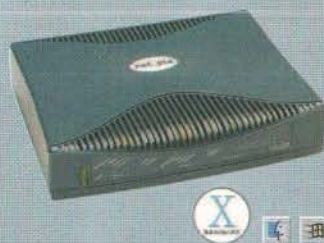
between the Macintosh and the directory service are encrypted. No changes to the Active Directory schema are required, and no special user attributes need to be maintained. ADmitMac automatically configures the Mac to use Kerberos, and obtains security keys from the domain.

- ✓ Ideal for use in computer labs or corporate networks where security is a major concern
- ✓ Caches user credentials for mobile user access when not connected to the network
- ✓ Administrators can easily manage Macs in the Microsoft Windows domain - no special training needed
- ✓ Installs on the Mac with no Active Directory schema changes required
- ✓ Allows for user log in from home

Description	Prices Ex VAT
ADmitMac	£99.99
ADmitMac 5-User Mac	£399.99
ADmitMac 10-User Mac	£666.99
ADmitMac 25-User Mac	£1,532

netopia ADSL Routers & Modems for Business

Business-class broadband routers for small- and medium-sized enterprises



The Netopia 4500 Series and 3300 Enterprise range are families of business-class routers designed for the needs of small or medium enterprises and teleworkers.

These combine powerful routing features, built-in VPN capabilities and enterprise-class management tools into a single, all-in-one device. The 4500 Series offers both ADSL and SDSL products, whilst the 3300 Enterprise range offer ADSL and Ethernet products.

The 4500 range is aimed at the office

environment with its support for multiple simultaneous VPN tunnels and the facility to nominate a second routed connection as a failover. This range has proven a reliable business solution over several years and its continued firmware development means new features are available regularly in the form of a FREE download.

The 3300 Enterprise series is a range designed for distributed enterprise and teleworker applications, providing many of the capabilities of the 4500 series in a more compact device ideal for small office or home environments. The 3300 Enterprise offers units designed for both ADSL and Ethernet (for cable or wireless broadband) WAN connections.

Wireless LAN capabilities have now been introduced with new models, such as the 3387W-ENT, that employ Netopia's 3-D Reach technology for unparalleled wireless performance. Unlike many manufacturers who offer wireless LAN capabilities by adding a wireless card into an existing product design regardless of suitability, Netopia have designed new logic boards to both integrate and actually enhance the Wi-Fi aerial performance.

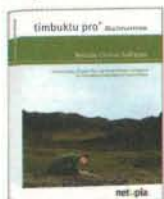
- ✓ Robust routing, security and management features optimised for the business user
- ✓ Built-in and standard VPN features
- ✓ Application specific architecture designed for the small business budget
- ✓ Point-to-Point Protocol (PAP/CHAP authentication)
- ✓ Numbered or unnumbered WAN interface
- ✓ Up to 8 subnets on the LAN, with DHCP server associations
- ✓ Menu-driven interface via Telnet
- ✓ Backup Default Gateway via an external router

- ✓ TFTP or X-Modem download/upload of new firmware and config files
- ✓ Built-in firewall, packet filtering on source/destination address, service, and protocol; up to 255 rules in up to 8 filter sets
- ✓ Utilities: ICMP ping, trace route, Telnet client, and Syslog client
- ✓ Management via menu-driven or CL interfaces with console or Telnet access
- ✓ Configuration Management, up to 3 backup configurations
- ✓ Up to 8 subnets on the LAN, with DHCP server associations
- ✓ Up to 15 PPTP or IPsec VPN security associations

Description	Prices Ex VAT
Netopia 3346 ADSL Enterprise Router Inc. 4 Port 10/100 Switch	£199.00
Netopia 3386 Broadband Enterprise Router Inc. 4 Port 10/100 Switch	£149.00
Netopia 3387W Broadband Wireless Enterprise Router Inc. 4 Port	£199.00
ADSL Splitter/Micro-Filter	£9.99
Netopia 4500 Series ADSL Router 4 port/10BaseT Hub	£275.00
Netopia 4500 Series ADSL Router w 1 x 10/100 Ethernet port	£275.00
Netopia 4500 Series SHDSL Router	£450.00

netopia. Timbuktu Pro

Complete multi-platform remote control solution



Timbuktu Pro is the only high-performance remote control and Internet communication solution for computers running both the Macintosh and Windows Operating Systems.

Multiple Access Mode technology supports all Internet, local area network, wide area network, dial-up and direct dial connections. Offering remote control, fast file exchange, chat and intercom, Timbuktu ensures that any mobile worker,

telecommuter, day extender or collaborator can connect and communicate without fail across all Windows and Mac OS platforms. Help Desk departments save precious time by remotely supporting all Macintosh and Windows users over the LAN and WAN. Systems Administrators appreciate Timbuktu Pro for its ability to remotely maintain servers regardless their location.

- ✓ Multiple security options make Timbuktu Pro compatible with the security policy of every company
- ✓ High-speed communication means Pro is now faster than ever
- ✓ Scrambling the guest-to-host stream adds a new layer of security
- ✓ Check on your server at any time with remote administration
- ✓ Integrates directly into the operating system for smooth set-up

Description	Prices Ex VAT
Timbuktu Pro 2-User Mac/Win	£139.99
Timbuktu Pro 10-User Mac/Win	£499.99
Timbuktu Pro 30-User Mac/Win	£1,349

netopia. netOctopus

Turn your network into a strategic asset



With its power, versatility and ease of use, netOctopus is the premier systems administration tool for the multi-platform enterprise.

In today's business environment, people need to choose the best operating systems and applications to be effective in their jobs. Keeping track of all these assets, applications and software licenses throughout a LAN, WAN or global distributed enterprise is a full time job in

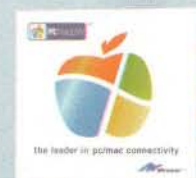
itself. With netOctopus, over 500 hardware, software and system details can be at your fingertips instantly - stored in a database for searching, sorting and reporting. Information-gathering should be a tool, not an obstacle. For software distribution tasks, network administrators can take a snapshot of a computer hard drive before and after installing new software, compare them for differences and create custom installer packages to send out to computers throughout their networks.

- ✓ Save travel, time and reduce expenses across geographical boundaries
- ✓ Manage all workstations from one central location
- ✓ Works with netOctopus database or existing SQL databases

Description	Prices Ex VAT
netOctopus License 11-49 Users (per seat)	£41.00
netOctopus License 50-99 Users (per seat)	£40.99
netOctopus License 100-249 Users (per seat)	£33.00
netOctopus License 250-499 Users (per seat)	£28.20

Miramar PC MACLAN 9.0

Connect PCs and Macs together on any network



Getting your Macs and PCs talking can be a constant headache, but PC MACLAN solves it with ease, as PCs view shared files on a Mac in their Network Neighbourhood, while Macs view PCs in the Finder.

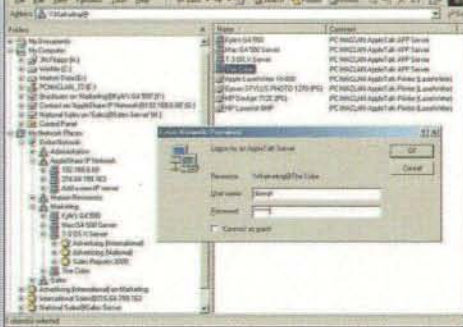
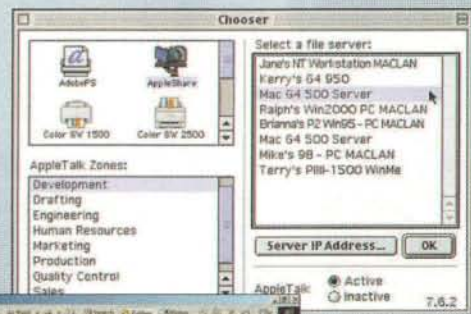
PC MACLAN is the most complete solution for networking Windows workstations and servers with Mac OS. Centralised security, IP client support and NT OS integration offer

PC MACLAN users convenient features for sharing files, drives and printers bi-directionally with Mac-based systems. If you need peer-to-peer networking between professional Macintosh and Windows systems, MACLAN is the product of choice.

- ✓ Access any printer or computer available on an AppleTalk network
- ✓ Access Macs running File Sharing and Apple Remote Access 3.0
- ✓ PC MACLAN adds AppleShare Print Client and Server services to the Windows printer mechanism
- ✓ Print from your Mac directly to any PostScript or non-PostScript printers attached to the PC network
- ✓ Access Mac files, drives and printers from Network Neighbourhood
- ✓ Accesses PC files and drives via your Mac's Chooser

Description	Prices Ex VAT
PC MACLAN 9.0 Win2000/NT/XP	£207.99
PC MACLAN 7.2 Win 95/98/Me	£207.99

PCs and Macs become part of the same network with PC MACLAN's industry leading technology. Macs may view and access PCs through the Mac's Chooser



With PC MACLAN, the Mac network becomes incorporated into the PC network. In Windows Explorer, AppleShare IP Servers, Workstations and AppleTalk/Postscript printers are displayed

HERMSTEDT StingRay

The ultimate peer-to-peer file transfer solution



The landscape for communications in the creative industry is changing and Hermstedt are developing the tool to help you change with it - StingRay. It's the new file transfer server that allows users to exchange electronic documents with anyone, anywhere, regardless of platform, protocol or communication method.

StingRay is designed to allow designers, studio managers or administrators to simply select a file or folder and a name from an address list and then forget about it!

StingRay sends and receives via ISDN, IP (broadband) and Email so you don't have to use several different transfer tools for different customers. Also once installed, StingRay is the only communication module between the outside world and the internal network, offering absolute security.

StingRay offers an easy way to migrate your communications without retraining users. Add the ability to Email them to confirm receipt or transmission and StingRay will revolutionise your file transfer workflow.

- ✓ Maximum security and control to protect your files in a network environment
- ✓ Available with 2, 4, 8 or 30 channel ISDN interface and Ethernet for universal connectivity
- ✓ Seamless workflow integration into the corporate network with the browser interface and supplied software

Description	Prices Ex VAT
Stingray Server Mk2 (Basic) - inc 2-channel ISDN and IP	£1,995
Stingray Server Mk2-4B (Platinum) - inc 4-channel ISDN and IP	£2,495
Stingray Server Mk2-8B (Platinum) - inc 8-channel ISDN and IP	£2,995
Stingray Server Mk5 (Platinum) - inc 30-channel ISDN and IP	£3,995

HERMSTEDT DAVE 4

The professional cross-platform file and printer sharing solution!



DAVE is the first and only cross-platform networking solution of its kind. DAVE uses the fast, industry standard TCP/IP protocol instead of AppleTalk and is designed specifically for the Apple Macintosh.

DAVE v4.1 is a software solution that enables Macintosh users to participate in Microsoft networks with both file and print sharing services. DAVE is installed on the Macintosh and requires no additional software to be installed on the PCs other than the standard operating system

offerings from Microsoft. DAVE also supports many third-party SMB offerings such as the latest version of SAMBA running on UNIX platforms as well as Macintosh OS releases v8.6-9.2.x, 10.1.5 and 10.2.

DAVE functionality may vary with different Mac OS releases due to available OS features. There are two DAVE installers, one for Mac OS v8.6-9.2.x and one for Mac OS X. DAVE is provided on either a CD with both installers on the same CD or is also available for electronic download. The same software activation key will work with either installation.

DAVE performs all communications using the industry standard protocol TCP/IP with Domain Name Services (DNS), and a NetBIOS driver that is fully RFC 1001/1002 compliant. DAVE supports both Windows Internet Name Server (WINS) and all services that are implemented using the Common Internet File System (CIFS) protocol. CIFS is an enhanced extension of the desktop cross-platform protocol for distributed file sharing called Server Message Block (SMB).

- ✓ Files larger than 2GB now backed up
- ✓ Restore folders and entire disks from older snapshots
- ✓ All Apple CD-RW and SuperDrives are now supported for optimum performance
- ✓ More open files on Windows clients are now backed up
- ✓ Completely backup and restore a Mac OS X computer with "root" permissions for the fastest possible recovery from disaster
- ✓ Retrospect can auto-launch and run when no Mac OS X user is logged in to provide additional security
- ✓ Back up to any tape, disk or desktop volume for all-round compatibility

Description	Prices Ex VAT
Retrospect Desktop Backup 5.1 Mac	£79.99
Retrospect Workgroup Backup 5.1 (inc 20 clients) Mac	£310.99
Retrospect Server Backup 5.1 (inc 100 clients) Mac	£499.99

HERMSTEDT ISDN Cards & Software

Award-winning file transfer solutions



Hermstedt have long been delivering file transfer solutions for the creative industry, and their ISDN products support the needs of creative companies.

Grand Central Pro

The latest version of Macworld-award-winning Grand Central Pro is fully Mac OS X compatible and allows files to be sent over ISDN and ADSL, analogue and leased lines

regardless of the communication hardware. Grand Central Pro's multi-protocol support and automatic protocol detection on incoming calls make ISDN file transfer possible to just about anywhere.

ISDN Cards

The ISDN card range goes from the Angelo 30-channel PCI card to the Leonardo SP 2-channel PCI card. Available for both Macs and PCs and in specially-priced bundles, the range recently expanded with the introduction of the Leonardo X4 for PCI-X slots like those found in the new G5 Macs.

Don't have PCI or PCI-X slots for expansion? Leonardo USB external adapters make communicating over ISDN even easier. Users requiring point-to-point file transfer love its fast, flexible communications.

Description	Prices Ex VAT
Angelo 30 Channel PCI ISDN Card Mac/Win	£2,750
Grand Central Pro 3.0 ISDN/ADSL File Transfer Software Mac	£399.99
Leonardo SP 2 Channel PCI ISDN Card Mac/Win	£744.99
Leonardo X4 4 Channel PCI-X (for G5) ISDN Card Mac/Win	£949.99
Leonardo XL 4 Channel PCI ISDN Card Mac/Win	£949.99
Leonardo USB 2/1 2 Channel USB ISDN Adapter + Modem Mac/Win	£749.99
Marco SL 2 Channel PCMCIA Adapter + Modem Mac/Win	£399.99

DAVE negotiates dialects with NT LM 0.12. DAVE provides for direct integration with Microsoft's Services for Macintosh and NTFS by using the same format for storing Apple resource and Finder information on the servers.

- ✓ DAVE provides separate installation programs for Mac OS X and Mac 8.6+
- ✓ Bi-directional file sharing between Windows PCs and Macintosh computers
- ✓ Uses Microsoft native protocols so no additional PC SW/HW required
- ✓ Network logon for Microsoft domain access
- ✓ NEW! Inkjet support for Mac OS X
- ✓ NEW! NT domain login
- ✓ DAVE is Apple Open Transport native and is compatible with MacTCP
- ✓ DAVE is fully scriptable with AppleScript (OS 8.6 - 9.2)

- ✓ Support for clear text passwords
- ✓ Automatic workgroup detection
- ✓ Unlimited network size
- ✓ Provides NT Domain Login
- ✓ Includes fully integrated help
- ✓ Shares files and printers between Macs and PCs
- ✓ Supports Microsoft standard browsing (including WINS)
- ✓ Provides three options for Security
- ✓ Supports Microsoft standard NTFS file format
- ✓ Shares CDs, printers, hard drives, folders, etc.
- ✓ Supports Windows shortcuts .LNK files
- ✓ Supports Distributed File Systems

Description	Prices Ex VAT
DAVE 4 Mac	£99.99
DAVE 4 5-User Mac	£399.99
DAVE 4 10-User Mac	£666.99
DAVE 4 25-User Mac	£1,532

Dantz Retrospect Backup 5.1

The professional choice for Mac OS X backups



The most eagerly anticipated backup software for Macintosh is here: Dantz Retrospect Backup version 5.1! Dantz Retrospect Backup 5.1 is the only comprehensive backup software suite built for Mac OS X, and it also runs natively in Mac OS 9, offering many new capabilities.

File backup sets are no longer constrained by resource fork size limits and can now

exceed 60,000-70,000 files, allowing large hard disks to be used for backing up complete Mac OS X systems.

- ✓ Files larger than 2GB now backed up
- ✓ Restore folders and entire disks from older snapshots
- ✓ All Apple CD-RW and SuperDrives are now supported for optimum performance
- ✓ More open files on Windows clients are now backed up
- ✓ Completely backup and restore a Mac OS X computer with "root" permissions for the fastest possible recovery from disaster
- ✓ Retrospect can auto-launch and run when no Mac OS X user is logged in to provide additional security
- ✓ Back up to any tape, disk or desktop volume for all-round compatibility

Description	Prices Ex VAT
Retrospect Desktop Backup 5.1 Mac	£79.99
Retrospect Workgroup Backup 5.1 (inc 20 clients) Mac	£310.99
Retrospect Server Backup 5.1 (inc 100 clients) Mac	£499.99

Dantz Retrospect Backup 6.5

The professional choice for Windows backups



Designed for use in home and small offices, Retrospect Backup runs on Microsoft Windows and backs up desktops and notebooks running Windows and Macintosh operating systems.

Proven automated technology makes backups and restores easy, fast and 100%-accurate. Retrospect Backup delivers the

proven capabilities of our enterprise-class products to the SOHO user.

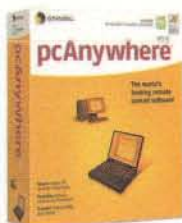
Designed for safety and security, Retrospect Backup provides complete protection against data loss due to viruses, newly installed software, user errors, damaged hardware, hardware upgrades, loss, or theft. In the SOHO environment, it's an essential.

- ✓ Progressive backup technology gives you the freedom to choose between full, incremental or differential backups
- ✓ Pro-active client backup prioritises and manages the seamless backup of desktops and laptops
- ✓ Retrospect's Disaster Recovery creates a bootable CD image of hard disk from the backup even after the computer to be restored has died (professional only)

Description	Prices Ex VAT
Retrospect 6.5 Professional Win	£71.99
Retrospect 6.5 Single Server Win (inc unlimited clients)	£435.99
Retrospect 6.5 Small Business Server Win	£468.99
Retrospect 6.5 Multi Server Win (inc unlimited clients)	£685.99

symantec. pcAnywhere 10.5

The world's leading remote control software



pcAnywhere from Symantec is the world's leading remote control software. It provides encryption, remote call-back, connection confirmation, and authentication to give you peace of mind during remote sessions.

A new wizard makes it easier than ever to set up encryption, and now you have more

options for authenticating users, including FTP, HTTP, generic LDAP, ADS, NDS and NT domains. For additional protection, pcAnywhere creates a log of every file accessed, every application launched, and all of its own activities (such as login attempts). pcAnywhere now includes an optimisation wizard to help you speed up your computing sessions.

- ✓ pcAnywhere Packager allows you to create customised installation sets
- ✓ Capture unauthorised login attempts in the pcAnywhere activity log to protect your data
- ✓ Mandatory password protection ensures the security of a pcAnywhere host
- ✓ Support for FTP, HTTP, HTTPS, generic LDAP, ADS, NDS and NT domains

Description	Prices Ex VAT
pcAnywhere 10.5 Base Win	£127.99
pcAnywhere 10.5 Host Win	£76.99
pcAnywhere 10.5 Base 5-User Win	£558.99
pcAnywhere 10.5 Host 5-User Win	£335.99
pcAnywhere 10.5 Win Download	£130.49

symantec. Norton Internet Security 2004

Essential protection from Internet threats



Norton Internet Security is your all-in-one defence against Internet dangers. Easy installation protects your PC or Mac, and all components work together seamlessly.

Norton Internet Security even keeps itself updated automatically to defend against new threats! Don't put yourself or your computer at risk. Stay protected when you Email, bank, shop or play on-line.

- ✓ Norton AntiVirus detects viruses in Email messages, instant message attachments, and other sources, removing virus infections without interrupting your work
- ✓ Norton Personal Firewall automatically hides your PC on the Internet, instantly protecting it from many hacker attacks
- ✓ Norton Privacy Control prevents confidential information from being sent out accidentally
- ✓ Norton Spam Alert filters out annoying junk mail
- ✓ Norton Parental Control helps you protect your children on the Internet by blocking access to objectionable Web sites and setting up separate Net access privileges for each member of your household

Description	Prices Ex VAT
Norton Internet Security 2004 Win	£42.99
Norton Internet Security 3.0 Mac	£68.99
Norton Internet Security 2004 Upgrade Win	£25.99
Norton Internet Security 3 Upgrade Mac	£40.99
Norton Internet Security 2004 Win Download	£38.29

symantec. Norton Personal Firewall 2004

Keeps hackers out and personal data in



Symantec's Norton Personal Firewall keeps hackers out and personal data in. Its robust defenses include intrusion detection, application control and privacy protection - all in one easy-to-use program. Right out of the box, Norton Personal Firewall hides your PC or Mac on the

Internet to keep hackers from seeing it. That action alone can prevent many attacks. In addition, Symantec's exclusive Norton Intrusion Detection thoroughly examines incoming Internet traffic and automatically blocks suspicious activities. Internet Access Control stops "spyware" and Trojan horse programs.

- ✓ Norton Personal Firewall hides your computer on the Internet
- ✓ Norton Intrusion Detection adds an extra layer of security
- ✓ Norton Privacy Control prevents confidential data from being sent over the Internet without your knowledge
- ✓ Built-in assistants help you get started quickly

Description	Prices Ex VAT
Norton Personal Firewall 3 Mac	£42.99
Norton Personal Firewall 3 Mac Download	£32.33
Norton Personal Firewall 2004 Win	£34.99
Norton Personal Firewall 3 Upgrade Mac	£25.99
Norton Personal Firewall 2004 Upgrade Win	£21.99

symantec. Firewall/VPN Appliance

Enterprise-class firewall and VPN security



The Symantec Firewall/VPN appliances are integrated hardware and software appliances that provide secure and easy connections via the Internet, meeting the secure networking requirements of businesses both large and small.

The Symantec Firewall/VPN appliances can be installed quickly, offering small offices an affordable turnkey solution for securing inbound and outbound Web, Email, FTP and other network traffic.

For larger organisations, it provides a complementary and remotely manageable solution for extending network connectivity,

firewall protection, and VPN access to satellite locations and branch offices.

Symantec Firewall/VPN appliances enable cost-effective connectivity between locations via any Internet service provider (ISP) account. By leveraging public connections, companies can bypass many typical networking expenses.

- ✓ Delivers comprehensive security and networking in a single, multi-function device
- ✓ Ideal for remote locations and small business offices with up to 40 employees
- ✓ Provides secure Internet connectivity and protects networks with integrated firewall functionality
- ✓ Ensures secure, cost-effective access to networks for remote offices

Description	Prices Ex VAT
Symantec Firewall/VPN 100 Appliance	£339.99
Symantec Firewall/VPN 200 Appliance	£639.99
Symantec Firewall/VPN 200R Appliance	£849.99

Swann COMMUNICATIONS MacSurfer USB Modem

Speedy connection in a cool design



The MacSurfer USB modem uses V.90 modem protocol - the fastest available. Perfect for huge downloads, speedy Web surfing and accessing on-line multimedia.

Attach the MacSurfer USB modem to a spare USB port, install the software and start surfing the Web. The MacSurfer USB modem is bus powered, so there is no need for extra power supply cables. Smooth, sleek styling and cool colours ensure the MacSurfer USB modem complements any

Mac. The compact design fits easily on the smallest desktop.

Software included: Swann NetTools CD contains all the utilities, applications and information to guide you through modem installation and Internet set-up. NetTools also provides a beginners guide to the Internet and 'Jargon Buster', a glossary of terms of all technical terms associated with the Internet.

- ✓ Fast data transfer rates make it perfect for large downloads
- ✓ Bus powered, so there is no need for extra supply cables.
- ✓ Sleek, compact lightweight design guarantees complete portability
- ✓ V.80 for video conferencing
- ✓ 5-year warranty

Description	Prices Ex VAT
MacSurfer USB 56K Modem Mac	£76.99
MacSurfer External Voice 56K Serial Modem Mac	£68.99

Swann COMMUNICATIONS USB ADSL Modems

High-speed connectivity for Mac & Windows



Swann's MacSurfer and Velocity USB ADSL modems allow you to experience broadband technology, providing super high-speed Internet access and/or remote connection to a home or office LAN. Connect at up to 50 times faster than analog modems, and benefit from always-on Internet connection!

Send and receive large data files in a matter of seconds. Swann's Velocity USB ADSL

modem (for Windows) and MacSurfer USB ADSL (for Mac) allow speeds up to 8Mbps downstream and 1Mbps upstream. It's the ideal solution for rapid digital downloads, viewing graphics-rich Web sites, faster and more explosive multi-media, high-speed multi-player and interactive games, real-time video conferencing, inter-office communication and much more!

MacSurfer comes with all the latest internet utilities for Mac including Internet Explorer 5.2.0, Adobe Acrobat Reader and MSN Messenger.

- ✓ Full rate ADSL allows speeds up to 8Mbps downstream & 1Mbps upstream
- ✓ Mac utility software included FREE!
- ✓ USB interface allows quick plug-and-play installation
- ✓ USB bus-powered, requires no external power supply

Description	Prices Ex VAT
Swann MacSurfer USB ADSL Modem Mac	£68.99
Swann MacSurfer USB ADSL Modem Win	£68.99

Infinity Oreus

Stunning home audio sound in a stylish design



defines performance and styling in an all-in-one home entertainment package.

The Infinity Oreus home cinema system is housed in curvaceous diecast aluminium enclosures that combine elegant styling, modest size, and structural integrity. The Oreus integral base/bracket ensures easy installation on a wall, tabletop or shelf. The base/bracket allows the Oreus satellites to be precisely adjusted and aimed for optimum coverage of the listening area. Matching floor stands are available to complete the definitive Infinity Oreus style statement.

Two configurations are available:

- ✓ 5.1 package (2 x front, centre, subwoofer and 2 x rear)
- ✓ 6.1 with 1 additional surround speaker
- ✓ Systems can be expanded to 7.1 using further rear speakers and measurements.

The Infinity Oreus uniquely blends stunning performance, flexible installation, and stylish design. And the popular Oreus loudspeaker range is now available for easy 6.1 and 7.1 configuration.

Consisting of dedicated satellite and centre loudspeakers along with a high-powered subwoofer, the Infinity Oreus system takes full advantage of exclusive technologies such as the C.M.M.D. (Ceramic Metal Matrix Diaphragm) ceramic alumina compound driver material developed by Infinity for some of the world's finest and most acclaimed loudspeakers. Infinity Oreus re-



The slim-line Infinity Oreus satellites (just 10cm deep) with diecast aluminium enclosures, have a stylish, organic shape and attractive metallic sheen

Description

Infinity Oreus speaker system

Price Ex VAT

£595.99

harman/kardon DVD 506 Limited Edition

High performance in a sleek package



The Harman Kardon DVD 506 Limited Edition single-disc DVD player with progressive scan video output delivers extraordinary video performance due to the Progressive Scan component video output and excellent audio performance via Burr Brown 24 bit/192 kHz audiophile-grade digital-to-analog converters.

The new on-screen display makes controlling the player easy. Other additions include a video test screen, an ergonomic, easy-to-use backlit remote control and the capability to play MP3 and WMA files, as well as JPEG images.

- ✓ Progressive scan component video output for NTSC and PAL for state-of-the-art picture clarity

- ✓ Direct RGB, S-Video and Composite Video outputs
- ✓ Plays DVD, CD, CD-R, CD-RW, DVD-R, DVD-RW, DVD+R, DVD+RW and Video CD
- ✓ Playback of MP3 and Windows® WMA v8 audio discs and JPEG image files
- ✓ MP3 and JPEG files played simultaneously
- ✓ ID3 v1 tag support
- ✓ Dolby Digital and DTS® compatible digital outputs
- ✓ Audiophile-grade, 192kHz/24-Bit Burr Brown output DAC
- ✓ High-resolution, 27mhz/10-Bit video DAC, 54mhz in progressive scan

Description

Harman Kardon 506 Single Play DVD Player

Prices Ex VAT

£255.99

harman/kardon AVR 507 Limited Edition

A powerful audio/video receiver with style



The AVR 507 Limited Edition 7.1 channel audio/video receiver with Dolby Digital EX and DTS-ES Extended Surround has been developed according to Harman Kardon's high-current analog amplifier design principles and combined with the latest in digital features and surround formats.

The 7 x 50 watts amplifier can be used to power your latest Dolby Digital EX or DTS soundtracks, but can also run a 5.1 system and a multi-room setup simultaneously via the assignable rear-channel amplifiers. Harman Kardon's exclusive Logic 7® and VMaX® decoding provides a thrilling multi-channel surround experience.

- ✓ 7.1 channel amplification
- ✓ High-current (±35 amps), ultrawide-bandwidth (10hz - 100khz) amplifier design
- ✓ EzSet™ remote provides manual and automatic calibration of audio output levels, and is programmable to control up to six devices
- ✓ Dolby Digital EX and DTS-ES extended surround decoding with advanced twin 24-bit Core Crystal® chip digital engine
- ✓ 192kHz/24-Bit DACs

Description

Harman Kardon 507 AV Receiver

Prices Ex VAT

£468.99

Art Explosion

All the clip art you'll ever need!



Art Explosion is an easy-to-use clip art library packed with exclusive vector illustrations, brand new photographs, professionally-designed Web graphics and more.

Included are at least 4 gigabytes of premium-quality graphics on multiple CD-ROMs, making Art Explosion an

unprecedented value among clip art products. Best of all, Art Explosion requires no downloads and no memberships.

- ✓ Hundreds of thousands of royalty-free images
- ✓ Multiple CD-ROMs in a portfolio
- ✓ Step-by-step guide to using clip art in all of your favorite programs
- ✓ More than 70% colour images
- ✓ Thousands of scalable vector graphics and 24-bit colour photos and backgrounds
- ✓ On-line image browsers with full colour previews
- ✓ FREE unlimited technical support

Description

Art Explosion 200k Win
Art Explosion 525k Mac
Art Explosion 600k Win
Art Explosion 750k Mac

Prices Ex VAT

£25.99
£99.99
£59.99
£139.99



Print Explosion Deluxe

A print shop on your desktop!



Want to create the perfect greeting card, sign, banner or other unique item? Let Print Explosion Deluxe show you the way with more than 8,800 professionally-crafted designs. It's easy to create truly stunning projects with that special personalised touch, saving time and money in the process. Print Explosion Deluxe's easy-to-use interface will walk you through the process, from concept to

finished product in a matter of minutes! Print Explosion Deluxe is ideal for first-time publishers and professional designers alike because it contains rich graphics, layout features and text effects not found in many programs at ten times the cost.

- ✓ Compatible with both OS X and Classic Macintosh OS
- ✓ 8,800+ professionally-crafted designs
- ✓ More than 3,000 greeting cards
- ✓ 90,000 premium-quality graphics
- ✓ 750-page printed catalog
- ✓ Avery-compatible label layouts
- ✓ Hundreds of signs, posters, banners, certificates, postcards and more!

Description

Print Explosion Deluxe Mac
Print Explosion Mac

Prices Ex VAT

£42.99
£39.99

JBL Invader

Self-powered multimedia speakers and subwoofer



JBL Invader is the direct result of customer requests for a high-performance surround sound computer audio system combining high fidelity and innovative design worthy of the JBL brand.

The 80-watt, 4.1 multichannel audio system includes four satellites and a powerful subwoofer to produce a high performance sound experience for gaming, DVD playback and music. JBL Invader can also function as a 2.1 system to create stunning stereo imaging for CDs and MP3s.

The JBL Invader audio system utilises simple interconnects which provide effortless control of volume, treble and subwoofer levels with minimal desktop wiring. The powerful 32-watt subwoofer incorporates a new, proprietary port design and a magnum transducer providing clean, strong bass. The four 12-watt satellite speakers complement the subwoofer to provide the level of high sound quality consumers desire for games, DVDs and music.

- ✓ Full 4.1 channel surround sound for a full, rich sound field
- ✓ Includes four 12-watt satellite speakers
- ✓ The powerful 32-watt subwoofer utilises an APG Technology port design and a magnum transducer
- ✓ Custom-designed MDF enclosure provides unparalleled spaciousness and definition
- ✓ Easy-to-use touch controls on right satellite speaker
- ✓ Compatible with all analog stereo and multichannel sound cards in desktop and laptop computers, plus MP3 players and personal CD players



The Invader audio system utilises a straightforward interconnect technology, which provides an effortless user interface with minimum desktop wiring

Description

JBL Invader Mac/Win

Price Ex VAT

£119.99

JBL Creature

A compact, stylish, high-performance speaker system



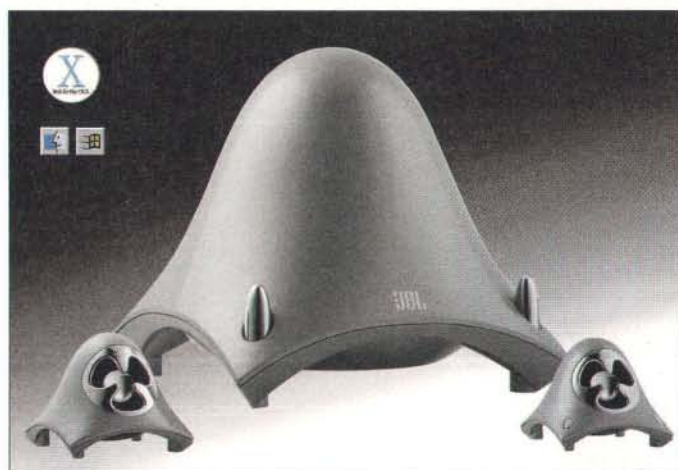
JBL Creature is a compact, high-performance speaker system for design-conscious users wanting to maximise their multimedia experience with quality audio.

The Metallic Silver JBL Creature three-piece speaker system includes two desktop speakers and a subwoofer. Both speakers and the subwoofer are magnetically shielded to provide the greatest protection against image distortion while on a computer monitor.

The JBL Creature comes with unique "capacitance touch" volume control buttons

on the right satellite. Both satellites also have down firing green LEDs for a cool look in minimum-light environments.

- ✓ Elegant design and convenient controls look good in any environment
- ✓ 8-watt-per-channel powered satellites
- ✓ 28-watt-powered subwoofer for excellent bass sound
- ✓ Intuitive user interface makes it easy to operate
- ✓ Snappy design looks good from every angle
- ✓ The Creature audio system recalls the volume setting from when the computer was last shut down
- ✓ Base-reflex enclosure utilises tapered port geometry that virtually eliminates exit turbulence while augmenting bass reproduction
- ✓ Touch-button volume and mute controls conveniently located on right satellite speaker



The Harman Multimedia Creature speakers look like they come from another planet and have a sound quality that's out of this world!

Description

JBL Creature Silver Mac/Win

JBL Creature White Mac/Win

Prices Ex VAT

£99.99

£99.99

JBL Duet

Smooth sound in a sleek design



Harman's latest offering to their award-winning speaker range, the new JBL Duet speakers provide smooth and accurate sound for any portable music player or computer.

With their sleek design and stylish colour these speakers will add sophistication. One of the main reasons that Harman can combine great looks with amazing quality is due to their Tangential Strain Relief (TSR) technology.

This exclusive technology allows (TSR) you to benefit from higher bass levels and lower distortion levels, allowing you to enjoy your musical experience.

For their size (185mm high, 185mm wide) the Duets produce a very impressive sound, thanks to the neodymium magnet inside. This gives more power while allowing a greater control of sensitivity. To enhance the output the new Duet speakers also use a proprietary port design. This enhances the bass performance of the speakers which make them sound like a large speaker trapped in a small speaker casing.

- ✓ Patent-pending Tangential Strain Relief (TSR) technology for extra bass and lower distortion
- ✓ The neodymium magnet creates more power and sensitivity
- ✓ Proprietary port design enhances the bass performance

Description

JBL Duet

Price Ex VAT

£34.99

harman multimedia

SoundSticks

Providing Apple users with high-quality stereo sound



Jointly developed with Apple Computer's world-class design team, the SoundSticks system comprises two powerful 10-watt satellite speakers backed by Harman Kardon's award-winning 20-watt subwoofer, which produces stunning bass response down to 44 Hz.

Housed in tubular, transparent enclosures, the satellite towers contain four Odyssey transducers that deliver sparkling high frequencies beyond 20 kHz. Efficient transducer technology provides superior

sound imaging, bright treble accuracy and high frequency responses to create crisp and powerful audio that rivals some home stereo systems. The sound dimension is key for the broadband experience, as SoundSticks complete the multimedia experience for users and advances the application of digital media as a gateway to entertainment and education.

- ✓ Digital USB interface allows you to easily create streaming digital audio
- ✓ True plug-and-play for simple and fast set-up
- ✓ 10-watt-per-channel powered satellites for crystal clear sound
- ✓ 20-watt-powered subwoofer for outstanding bass response
- ✓ Sleek design in a tubular enclosure makes it look good from every angle
- ✓ SoundSticks completes the multimedia experience for users

Description

harman/kardon SoundSticks Mac

Price Ex VAT

£129.99

EL GATO EyeTV

EyeTV gives you the power to watch TV on your Mac



With EyeTV digital video recorder, you can watch, record, and pause live TV, skip commercials, instant replay, or archive shows to VideoCDs playable in most DVD players. Use EyeTV's channel guide to search for programs to watch now or automatically record later. EyeTV will change the way you watch television!

EyeTV includes a 124-channel cable-ready TV tuner and MPEG encoder to digitise and send TV signals to your Mac over a standard USB cable (included). EyeTV software displays your TV show in a resizable window that you can extend the full size of your screen.

- ✓ Watch TV on your Mac
- ✓ Record programs to your hard drive
- ✓ Pause live TV!
- ✓ Use the Jump button to skip commercials
- ✓ You're in control with EyeTV!
- ✓ Compatible with the Keyspan Digital Media Remote
- ✓ Includes a 124-channel cable-ready TV Tuner and MPEG encoder
- ✓ Sends TV signals to your Mac over a standard USB connection
- ✓ EyeTV can display the TV program in a window or full screen
- ✓ Create your own video library right on your Mac's hard disk
- ✓ Use your CD recorder to burn a VideoCD that is playable in your home DVD player
- ✓ Use the jump button to skip a commercial or use instant replay to watch a scene over

Description	Price Ex VAT
EyeTV, TV Tuner and Digital Video Recorder Mac	£161.99

Contour MiniPRO Mouse

An optical, compact, ambidextrous mouse



Utilising the latest optical technology, the Contour MiniPRO Mouse won't skip around. There is no mouse ball and no moving parts to clean or to wear out. The MiniPRO Mouse offers superior tracking on almost any surface, and even tracks on non-flat surfaces - even the top of your head!

The unique button design (secondary button behind the primary button) allows users to operate the mouse in variable positions, reducing fatigue. The primary button spans the entire width of the mouse promoting faster, more accurate clicking.

- Furthermore, the MiniPRO Mouse comes with multiple coloured clip-on buttons to ensure a perfect match for any computer
- ✓ Sleek Titanium or New Snow colour to complement your system
- ✓ Stylish compact design is ideal for laptop users on the go
- ✓ Use it anywhere on almost any surface
- ✓ Optimally designed to be comfortable, yet compact
- ✓ Unique pack 'n' go carrying case provides added protection and easy cord storage
- ✓ Two-button mouse
- ✓ Optical technology - no mouse ball!
- ✓ USB connectivity
- ✓ Simple plug 'n' play installation

Description	Prices Ex VAT
MiniPRO Titanium USB 2 Button Mouse Silver Mac/Win	£25.99
MiniPRO Snow USB 2 Button Mouse White Mac/Win	£25.99

KEYSPAN Mini Port Replicator

No ports? No problem! Bring back your legacy ports



Is your new laptop missing the old ports? You don't need to buy two or more adapters to compensate: Keyspan's Mini Port Replicator combines a USB serial adapter, USB parallel printer adapter, and 2-port USB hub into one compact accessory. It draws power from the USB port - so no additional power adapter is necessary.

This lightweight port replicator is the perfect answer to your connectivity needs, incorporating essential adapters without being bulky or cumbersome. If you have to interface with older devices such as pre-USB printers, graphics tablets or modems, this is

the ideal solution that allows you to balance technological standards.

- ✓ Plugs into a USB port on a Windows or Macintosh computer and you're ready to go in seconds
 - ✓ Provides one RS-232 male DB9 port for direct connection to serial devices
 - ✓ Provides one female DB-25 printer port for direct connection of parallel based printers
 - ✓ Provides a 2-port USB self-powered hub
- Compatible products include:
- ✓ Serial PDAs from Palm, Compaq, HP, Casio, Psion and others
 - ✓ Digital cameras and modems
 - ✓ WACOM Intuos and ArtZ II tablets
 - ✓ GPS devices & ISDN terminal adapters
 - ✓ Mobile phones with serial connection

Description	Price Ex VAT
Keyspan USB Mini Port Replicator Mac/Win/Linux	£53.99

KEYSPAN USB2+FireWire Card

Add a single card and get USB 2.0 and FireWire



The Keyspan USB2+FireWire Card provides both USB 2.0 ports and FireWire ports on a single PCI card. Combining these two high speed connectivity technologies on one card saves money and a valuable PCI slot! The USB2+FireWire Card operates under Windows 98SE or later.

USB 2.0 drivers are provided. You may also use the USB 2.0 drivers now available from Microsoft for Windows XP. The USB2+FireWire Card operates at USB 1.1

speeds today. It will operate at USB 2.0 speeds once Apple adds support for USB 2.0 to Mac OS X. If you need high speed connections for your computer, this is the card you are going to want to get.

- ✓ Adds 3 external and 1 internal USB 2.0 ports to your PC
- ✓ USB 2.0 supports data rates up to 480 Mbps
- ✓ FireWire supports data rates up to 400 Mbps
- ✓ Compatible with both USB 2.0 and USB 1.1 devices
- ✓ Adds 2 external and 1 internal FireWire ports to your PC
- ✓ Ideal if you connect to a range of different devices
- ✓ Multi functionality in a single card

Description	Prices Ex VAT
Keyspan USB 2.0 CardBus Card 2-Port (also USB 1.1) Mac/Win	£59.99
Keyspan USB 2.0 PCI Card 5-Port Mac/Win/Linux	£39.99
Keyspan CardBus FireWire Adapter Mac/Win	£84.99
Keyspan USB 2.0 x 3ports + FireWire x2ports PCI Card	£59.99

KEYSPAN Digital Media Remote

For PowerPoint, QuickTime, DVD, CD and MP3



The Keyspan Digital Media Remote is a powerful infrared remote which allows you to control multimedia applications on your computer in the same convenient way that you now control your home TV.

The Digital Media is great for PowerPoint, QuickTime, DVD players, CD players and MP3 Players!

The Keyspan Digital Media Remote controls your multimedia applications by sending them the same keystrokes that you do when you control the application from the

keyboard. For example, if your program uses the "N" key to advance to a new slide, the Keyspan DMR Remote Control can send the same key to your application allowing you to control your application from across the room.

- ✓ IR receiver simply connects to the USB port on a Macintosh or Windows computer and you're ready to go in seconds
- ✓ Elegant 17-key IR remote transmits signals more than 35 feet
- ✓ Includes "key maps" for PowerPoint, QuickTime, RealPlayer, WinAmp, Sound Jam and other popular applications
- ✓ Extensive signal range gives you greater mobility during your presentation
- ✓ Software can be customised to support additional applications in order to meet your needs precisely

Description	Price Ex VAT
Keyspan USB Infrared Media Remote Mac/Win	£32.99

KEYSPAN USB 4-Port Mini Hub

The perfect complement to your new thin laptop!



The new USB 4-Port Mini Hub has the footprint of a credit card and is just 1 cm. thin, yet it offers all of the features of larger desktop hubs. It is simply the best USB hub ever made for use with a laptop computer!

This amazing hub offers four 12 Mbps USB 1.1 ports, supports both bus-powered and self-powered modes, and features a low power consumption design which uses up to 95% less power than hubs made by other companies!

This hub connects to a USB port on your Mac or PC laptop and provides four USB ports for connection to USB devices. It works with all USB devices and is fully compliant with the USB 1.1 specification. It is available in silver or black.

- ✓ Completely hot pluggable so you can add new peripherals instantly without shutting down your laptop
- ✓ Unlike most mobile hubs, the Mini USB 4 Port Hub works in both "bus-powered" and "self-powered" modes giving you greater flexibility
- ✓ The hub weighs 2 ounces and is just 1cm thin, guaranteeing complete portability
- ✓ Each port supports full 12 Mbps throughput for fast data transfer rates
- ✓ Backed by a 5-year warranty

Description	Prices Ex VAT
Keyspan USB Mini-Hub 4-Port Black Mac/Win/Linux	£32.99
Keyspan USB Mini-Hub 4-Port Silver Mac/Win/Linux	£32.99
Keyspan USB Hub 4-Port Graphite Mac/Win/Linux	£26.99
Keyspan USB Hub 4-Port White Mac/Win/Linux	£26.99

Digital Photography & Imaging
Digital Video
Audio Visual & Displays
Web & Internet
3D Design
Pre-Press & Production
Illustration & Graphics
Business & Utilities
Networking & Connectivity
Peripherals & Accessories

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Simplifying The Digital Lifestyle™

CrossFire Hard Drive

High performance desktop hard drives



The CrossFire external hard drive instantly adds high-performance storage in an attractive design for your PC or Mac. Connect it to either a FireWire or USB 2.0 port and you're ready to store thousands of digital photos, videos, MP3 songs and other electronic files.

Powered by a 7200 RPM hard drive, the CrossFire blazes through the most demanding audio/video applications allowing you to work more and wait less. CrossFire delivers outstanding quality, performance and reliability for both professional and home use.

- ✓ CrossFire's combo interface can connect to either a USB 2.0 or FireWire port
- ✓ Store thousands of digital photos, videos and MP3s and backup all your system data
- ✓ Fast, high-performance 7200 RPM hard drive
- ✓ Can be daisy-chained to your other FireWire peripherals
- ✓ Quiet no-fan operation
- ✓ Plug-n-play operation for most operating systems
- ✓ Dimensions: 221 mm x 127 mm x 39 mm
- ✓ Interface: two 6-pin FireWire (IEEE 1394) ports and one USB 2.0 port
- ✓ FireWire: 400 Mbps (max)
- ✓ USB 2.0 High Speed: 480 Mbps

Description	Prices Ex VAT
CrossFire 120GB Desktop HDD 7200rpm Firewire & USB 2.0 Mac/Win	£149.99
CrossFire 200GB Desktop HDD 7200rpm Firewire & USB 2.0 Mac/Win	£219.99
CrossFire 250GB Desktop HDD 7200rpm Firewire & USB 2.0 Mac/Win	£269.99

SMARTDISK
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FireLite

Fits your needs, yet still fits in your hand!



FireLite from SmartDisk is a slimline pocket hard drive that offers great looks, huge storage capacities and a trim design that makes it easy to carry and use either at your desk or on the go.

One of the first things you'll notice about FireLite is its size: just 3 1/4 inches x 5 inches x 3/4 inch. But while FireLite is small in size, it offers a big storehouse for your applications and data. FireLite is available in

20GB, 40GB 60GB and 80GB models to meet your storage needs. More than just a great-looking peripheral, FireLite has everything you demand in a hard-working and versatile hard drive.

- ✓ Firewire drives available in 20Gb, 40Gb & 80Gb
- ✓ USB 2.0 bus powered models available in 40Gb, 60Gb & 80Gb
- ✓ Peak data transfer rate 40MB/sec, average transfer rate 22MB/sec
- ✓ Easy installation
- ✓ Can be daisy-chained to meet the most demanding storage needs
- ✓ Can be powered through the FireWire and USB 2.0 interface

Description	Prices Ex VAT
FireWire FireLite 20GB 2.5" Hard Disk Drive	£109.99
FireWire FireLite 40GB 2.5" Hard Disk Drive	£129.99
FireWire FireLite 60GB 2.5" Hard Disk Drive	£174.99
FireWire FireLite 80GB 2.5" Hard Disk Drive	£229.99
FireLite USB Bus-Powered 40GB 2.5" Hard Disk Drive	£124.99
FireLite USB Bus-Powered 60GB 2.5" Hard Disk Drive	£169.99
FireLite USB Bus-Powered 80GB 2.5" Hard Disk Drive	£219.99

SMARTDISK
Simplifying The Digital Lifestyle™

USB Floppy Drives

Plug & play drives for easy storage



Plus, it's powered through the USB port, so no AC adapter is needed. If Titanium is not your thing, this drive is also available in black, bringing functionality and versatility to your USB equipped Macintosh or PC computer. For a limited amount of time, there is also a White version available to complement your Apple iBook or new iMac.

- ✓ Fast data transfer rate of up to 500kb/s means that you work more and wait less
- ✓ Ultra sleek Titanium styling perfectly complements your new PowerBook G4, as well as the Sony Vaio
- ✓ Powered through the USB port, so you don't need a bulky AC adapter
- ✓ Writes standard 1.44MB floppy disks quickly and easily
- ✓ True plug & play capability makes it quick and easy to use and install

Description	Prices Ex VAT
USB External Floppy Disk Drive x2 speed Mac/Win/Unix	£29.99



.Mac

Internet essentials from Apple



Apple's .Mac is a suite of software and Internet services that gives you everything you need to communicate and share with family and friends.

It's the perfect partner for your digital lifestyle. Easy-to-use tools help you create photo albums, calendars and your own Web site, and access your Email, address book and files on-line from any Internet-connected computer.

Annual .Mac membership includes:

- ✓ HomePage Web publishing – this easy-to-use Web design and publishing tool lets you create your

own Web sites or simply share photos, movies and documents with your friends, family or co-workers.

- ✓ Virus protection – award-winning virus protection from industry-leading McAfee includes automatic virus definition updates.
- ✓ Automatic file backup – use Backup software from Apple to save your important files to iVideo, CD or DVD.
- ✓ .Mac Mail – the premium Email service designed by Mac users, for Mac users. Mail includes a full 15MB of storage and Web access from any Mac or Windows machine. With iMAG, your Email is stored on Apple's servers and is accessible from any connected system.
- ✓ iDisk – share or access files via your own online hard disk, accessible from any Mac or Windows machine. With iDisk you get a generous 100MB or storage space on Apple's online servers, with drag-and-drop simplicity.

Description	Prices Ex VAT
.Mac 1.1	£58.99

SMARTDISK
Simplifying The Digital Lifestyle™

Rover II

Portable USB MP3 player - doubles as memory stick



Rover II is a compact, portable data storage/transfer device that doubles as a MP3 audio player. It has exceptional sound quality as an MP3 player and is the ultimate in simple data file transfers (no cables or software needed!).

Get Rover with a USB flash memory module size that suits your needs. It's an incredible value in such a tiny package.

Plug Rover into any computer USB port and it will show up automatically as a removable storage device. Drag and drop your MP3s or any files you want onto Rover. No cables or software* are needed.

- ✓ Versatility – for transferring data
- ✓ Simple to use – connect to your computer via USB
- ✓ Support for Windows 98SE*, ME, 2000 and XP or Mac OS 8.6 - 9.x, Mac OS X 10.1 or higher
- ✓ Run with it – tiny, no-skip design makes it ideal for active lifestyles
- ✓ Convenient connections – for external devices such as speakers, via headphone jack
- ✓ Go out and play – up to 12 hours continuous play from one AAA alkaline battery (included)
- ✓ Available in 64MB and 128MB variants

*Support for Windows 98SE is provided via downloadable software through the SmartDisk Web site.

Description	Prices Ex VAT
Rover II 64MB USB Flash Storage & MP3 Player	£CALL
Rover II 128MB USB Flash Storage & MP3 Player	£CALL

SMARTDISK
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FireWire CD-RW

Rip, burn and play!



SmartDisk FireWire CD-RW is the sleekest and most portable CD-RW. It's so convenient and easy to use that you can take it with you anywhere. Just plug it into any standard 6-pin FireWire-equipped computer and you're ready to go. You can rip and burn right out of the box!

- ✓ 3 drives in 1: CD-ROM, CD-R, CD-RW
- ✓ FireWire powered, no AC adapter or battery pack required
- ✓ Includes CD burning software for Windows and Mac
- ✓ Comes with a FREE carrying case
- ✓ Includes Roxio software for Mac & PC

Description	Prices Ex VAT
FireWire CD-RW	£119.99

SMARTDISK
Simplifying The Digital Lifestyle™

FlashHopper

Truly compact storage



The FlashHopper USB Flash Memory Drive is portable data storage with plug-n-play ease of use! It's the fastest and easiest way to transport and share files from your home or office computer.

Simply plug FlashHopper into the USB port of any computer, copy the files you want, unplug and you're done. Vital data, documents, MP3s, digital video and photos can be copied safely in seconds.

- ✓ Compact size – fits in your pocket!
- ✓ USB and USB 2.0 compatible

Description	Price Ex VAT
FlashHopper 64Mb	£27.99
FlashHopper 128Mb	£49.99
FlashHopper 256Mb	£74.99
FlashHopper 512Mb	£129.99

BTI Batteries

Batteries & chargers for all kinds of laptops



computers and cellular phones. By maintaining strict quality standards in production, as well as in sourcing, BTI is able to provide consistent, high capacity and durable batteries.

And what makes a BTI battery? Quality battery cells!

✓ The batteries are made from only the best Nickel Cadmium (NiCd), Nickel Metal Hydride (NiMH) and Lithium Ion cells made by Panasonic, Yuasa, Sanyo and Toshiba

✓ Smart Technology – most new notebooks use "smart" battery technology to conserve power and indicate to the user the remaining available capacity

✓ Durable outer plastic moldings – every one of BTI's batteries is encased in a durable outer plastic mold that is sonic welded for total seamlessness.

✓ Comes with BTI's warranty and reliability guarantee



Description	Prices Ex VAT
PowerBook G3, 1400, 3400, iBook models - Charger	£49.99
PowerBook G4; iBook (2001 model) - Charger	£44.99
iBook (original) - Charger	£44.99
PowerBook G3 (Wall Street) - Charger	£44.99
iBook (original) - Air/Car	£44.99
PowerBook G4; iBook (2001 model) - Air/Car	£49.99
PowerBook G3 (Wall Street)/3400/1400 - Air/Car	£49.99
PowerBook 1400 Series (standard cap) - Battery	£69.99
PowerBook 5300 Series (EXTENDED CAPACITY) - Battery	£69.99
PowerBook 5300 Series - Battery	£69.99
iBook (original) - 14.1 inch screen - Battery	£99.99
PowerBook G3 (1998 Wall Street model) - Battery	£109.99
PowerBook G3 (1999 - 2000) - Battery	£109.99
PowerBook G4 (original model) - Battery	£129.99
iBook (2nd generation) - 12.1 inch screen - Battery	£125.99

Battery Technology, Inc. was founded in February 1992, shortly after Apple introduced the PowerBook series of notebook computers. Their first product was the MC-170, a high capacity battery for the PowerBook 140-180C series notebooks.

From those humble beginnings, Battery Technology's family of products grew to include more than 1,000 products for notebook computers, cellular phones, camcorders and the Omega Zip Drive.

BTI has become one of the leading manufacturers of batteries and accessories for notebook computers. They offer products for many manufacturers' notebook

Jam Jacket

Superb protection for your iPod



Digital Lifestyle Outfitters presents the best available style and scratch protection for your new iPod! The Jam Jacket is made from an injection-moulded translucent rubber that fits your iPod like a glove.

- ✓ Approximately 1.5mm thick
- ✓ Play-through design provides total access
- ✓ For new 10GB, 15GB and 30GB iPods

Description	Price Ex VAT
Jam Jacket (Various colours)	£21.99

Executive PodFolio

Hand-crafted for the power user



This handsome and professional iPod case is perfect for the executive iPod owner on the go. Hand-sewn and made from beautifully crafted Italian leather, the Executive PodFolio features a swivel belt clip, and a protective flap that totally surrounds and protects your iPod.

- ✓ Clear vinyl window protects iPod display
- ✓ Extra pouch provides storage for earbuds

Description	Price Ex VAT
Executive PodFolio for new iPod	£29.99

Action Jacket

For those who live the active life



The Action Jacket features a seamless balance of function and style and provides protection and portability. At 2.5mm of thick neoprene, the Action Jacket has a custom play-through design, allowing access to iPod's jog wheel, surrounding buttons and display.

- ✓ Grippy, textured neoprene sides
- ✓ Swivel belt clip and Action Armband
- ✓ Available in four colours: Licorice, Indigo, Apple Red and Graphite

Description	Price Ex VAT
Action Jacket (Various colours)	£21.99

NeoPod

The original neoprene case



Digital Lifestyle Outfitters' NeoPod was the first neoprene case on the market for the first generation iPods in 2001. This classic is re-born in this new generation of iPods. At 2.5mm in thickness, the NeoPod iPod Protector provides great protection for your iPod.

- ✓ Plastic protector covers iPod's screen
- ✓ Detachable swivel belt clip included
- ✓ For new 10GB, 15GB and 30GB iPods

Description	Price Ex VAT
NeoPod Neoprene Protector	£14.99

PodFolio

For the fashion-conscious iPod user



Digital Lifestyle Outfitters' PodFolio is a handsome and professional iPod case that is perfect for the fashion-conscious iPod owner. Hand-sewn and made from beautifully crafted Italian leather, the PodFolio iPod Jacket features a belt clip (money clip style), play-through design that provides full access to the iPod's controls and a clear vinyl window.

- ✓ Fully-lined with Velveteen
- ✓ Play-through design provides total access
- ✓ For new 10GB, 15GB and 30GB iPods

Description	Price Ex VAT
PodFolio Leather iPod Jacket	£24.99

TransPod II

The total iPod solution for your car



TransPod II allows users to simultaneously charge, mount and listen to their iPods through their car stereos. The TransPod II has the same sleek design of the original TransPod, but features a cassette tape adapter and auxiliary cord that plugs directly into a user's car stereo!

- ✓ For users who have a cassette player or auxiliary input jack with their car stereos
- ✓ Cassette adapter and male/male auxiliary cable are both included
- ✓ For new 10GB, 15GB and 30GB iPods
- ✓ LED indicator shows charger status

Description	Price Ex VAT
TransPod II	£69.99

AutoPod AutoCharger

Never run out of power again



Digital Lifestyle Outfitters' AutoPod AutoCharger features a coiled cord that expands from 18 inches to 36 inches. Why have a 6 foot section of cord when you only need a couple of feet? The AutoPod provides power to operate and charge Apple's iPod via a standard 12 V DC cigarette lighter.

- ✓ Works with any 12V auto cigarette lighter
- ✓ Lets you drive with music and arrive with iPod fully charged!
- ✓ LED indicates power status
- ✓ Available in black and white

Description	Price Ex VAT
AutoPod FireWire AutoCharger	£19.99

Zip Cord Earbuds

Retractable for easy storage!



Finally, an earbud set that offers portability and high sound quality in the same package!

The Zip Cord Retractable Earbuds feature high quality earbuds on a cool, retractable spool. Plug the mini jack into your iPod, then pull the earbuds to extend the cord from 4 inches to a full 40 inches. Adjust the wire length manually by activating the spool and locking in at desired length.

- ✓ Cords extend a full 40 inches
- ✓ Compact, retracting design makes them easy to carry around with your iPod

Description	Price Ex VAT
Earbuds	£14.99

WACOM



Watch for the Penabled logo to ensure you're getting the natural feel and superior performance of Wacom's patented cordless and battery-free pen technology.



graphire³

Pen made Imaging



Graphire3 is a new range of products designed to give the enthusiast the power to do more with their images. It is the perfect next step for anyone who owns a digital camera or camcorder.

Whether it is the Classic version with a tablet and Painter Classic, or Graphire3 Studio, including Adobe Photoshop Elements 2 and Pinnacle Studio 8LE - Graphire3 is the perfect solution, whatever your needs.

Visit www.my-graphire.com to find your potential

See page 12



Exclusive - CW Install Services

Mac systems delivered / installed plus ADSL set-ups.

Take the hassle out of buying a computer. Remove the problems with ADSL 'self-install'. *If you live in London or the Western Home Counties, CW will deliver, configure and install your new Mac system for an all-inclusive price. Or visit and properly install and set-up your Broadband connection!

FROM £49 EX VAT

EXCLUSIVE
CW ONLY
SERVICE

EXPERIENCED
TRAINED
PERSONNEL

PACKAGES INCLUDE

- ✓ Your Mac equipment delivered by our Engineer at a pre-arranged time (no waiting for a courier)
- ✓ Connection to the Internet via your ISP (not ADSL)
- ✓ Installation of up to 5 software applications +
- ✓ Connection of up to two USB peripherals. See page 32 for more details.

Surge protection!

Liebert

POWERSURE PROACTIVE 2

Power surge protection for your workstation and network equipment.

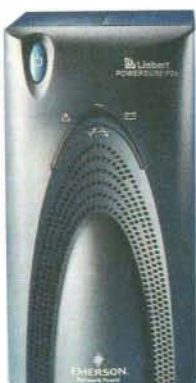
If you are concerned about power quality and back-up time for your sensitive network equipment, the one-on-one protection of the PowerSure Proactive provides dual benefits: the value of an off-line UPS combined with the superior voltage regulation of the line-interactive UPS. Designed for easy set-up and installation with configurable input voltage; USB and serial communications options; battery-backed surge-only outlets; and user-replaceable, hot-swappable batteries. It is certified by Apple (OS X 10.2 or later) and Microsoft for use with Windows XP and 2000 systems.

Key Features

- More than ten minutes of instantaneous typical battery back-up
- Line-Interactive design offering automatic voltage regulation (boost & buck) without transfer to battery
- Hot Swap, User Replaceable Batteries
- Fourteen day automatic UPS and battery test
- Automatic overload protection
- 4 to 6 Battery Backed and Surged Protected Outlets
- 2 Additional Surge Protected Outlets
- Data and Phone Line Protection
- Kit includes MultiLink Shutdown Software, Power Cables, Data Line Cable, USB and Serial Communications Cable
- Two-year warranty

2-350 350va Line Interactive	£69	£81.08
2-500 500va Line Interactive	£89	£104.88
2-650 650va Line Interactive	£139	£163.88
2-1000 1000va Line Interactive	£199	£233.88
	EX VAT	INC VAT

LOOK HERE!
NEW
PRODUCT



PSA2 From Only

£69 EX VAT
£81.08 INC VAT

Power protection for your Mac.

Up to 20 minutes of protection in the event of a power failure!

PowerSure Personal XT USB

Never lose work again!

Continuous cost-effective power protection in your office or home. If the mains supply fails or moves outside an acceptable level, the PowerSure Personal XT offers up to 20 minutes of battery back-up (depending on the actual load), giving ample time to protect the equipment and save files through Liebert's WEB based Multilink Software.

Also available: 700va Off-Line PSPXT £99 (£116.33)

450VA Off-Line PSP XT

£69 EX VAT
£81.08 INC VAT

A CW
STAR
BUY

UP TO 20
MINS BACKUP

THREE POWER
OUTLETS

450 VA -
270 W

2 YEAR
WARRANTY

AV320

with video recorder and great 3.8" screen

This pocket-sized entertainment system records from...

- ... TV, Video and DVD player
- ... Video camera & digital camera
- ... Stereo & Radio and external microphone
- ... Or drag and drop files from your Mac or PC

It converts and plays MP3 music, MP4 video and photos on the huge 3.8" screen or through the TV.

It can store and play up to...
... 50 DVD films
... 500,000 photos
... Your whole music collection
You don't need to be at home to watch home videos, when you can keep up to 80 hours of high-quality picture and sound in your pocket.

Main Features

- ▲ MP3 Music Player and Recorder
- ▲ MP4 Video Player and Recorder
- ▲ Displays photos and video on TV or 3.8" colour LCD
- ▲ 20GB Hard Drive
- ▲ USB2
- Options
- ▲ FireWire cable
- ▲ Car Cigarette Lighter Adaptor
- ▲ Memory Card Readers (SM, CF, Memory Stick or MultiMedia Card)
- ▲ 3.3MP Digital Camera & Camcorder attachment FM Radio & Remote Control

"The playback quality of video, images and audio is excellent..."
Maduser

Stuff magazine called it
The Greatest Gadget
Ever!



MP3 PLAYER
RECORDER
PHOTO
VIEWER
MP4 VIDEO
PLAYER



LOOK HERE!
NEW
PRODUCT

Also available:
AV340 (40GB) £479.95 ex VAT

CW Awesome Price from

£399 EX VAT
£468.83 INC VAT

PORTABLE HARD DRIVE

The world's smallest 20GB external portable hard drive

The ARCDisk uses ultra-fast USB 2.0 interface, is extremely small, incredibly stylish and is equipped with the latest generation 1.8" hard drive. Usable without an external power supply (powered directly from the USB 2.0 port), it is ideal for travelling or carrying to and from work.

Main Features

- ▲ Stylish, slim pocket sized 20GB hard drive
- ▲ Powers from USB 2.0 port
- ▲ Package includes:
ARCDisk, USB 2.0 Cable and AC Power Adapter



CW Awesome Price

£169 EX VAT
£198.58 INC VAT

MINI HARD DRIVE

Small, light & slim portable hard drive

MiniHD offers additional storage capacity from 20 GB or 40 GB (depending on model) for your computer and is available with Firewire or USB 2.0 interfaces for easy connection. With no need for an external power supply, at just 180g, the ARCHOS MiniHD is extremely portable making it simple to copy files between drives.

Main Features

- ▲ Pocket sized
- ▲ Choice of 20 or 40 GB Hard Disk
- ▲ Powers from Computer
- ▲ Weighs only 180g
- ▲ Firewire or USB 2.0 Interfaces



CW Awesome Price

£109 EX VAT
£128.08 INC VAT

OPEN 6 DAYS A WEEK
Mon to Fri 9am - 5.30pm Sat 9am - 5pm

CW INSTALL SERVICE
For Macs. London areas. Call for details.

BUY NOW PAY LATER
See page 31 for details & conditions.

QUICK QUOTE
Fax us a list of required items.

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ORDER BY FAX 020 8400 9444

VIDEO
EDUCATION
CAMERAS
PRINTERS
ACCESSORIES
SOFTWARE
STORAGE
DISPLAYS
SCANNERS
MEMORY
MACS



This is...

"For photos which you'll love to see, insist on a camera from 'ol Fuji'"

computer warehouse

Apple Centre



Only CW has been awarded no less than NINE Macintosh Magazine Reader Awards in 6 Years

EDUCATION DEPT

CORPORATE SALES

APPLE DIRECT ACCOUNT



Many more Digital Cameras online at: www.cwonline.co.uk

Shop at Computer Warehouse and get...

Massive Choice

Massive Savings!

CANON

Digital Ixus 400	£259	£304.33
Powershot A300	£139	£163.33
Powershot G5	£449	£527.58
Powershot A70	£209	£245.58
Powershot S50	£339	£398.33

FUJI

FinePix 2800	£175	£205.63
FinePix A202	£89	£104.58
FinePix A205s	£129	£151.58
FinePix A203	£135	£158.63
FinePix A210	£165	£193.88
FinePix A303	£169	£198.58
FinePix F401	£199	£233.83
FinePix S304	£219	£257.33
FinePix S602	£389	£457.08
FinePix S602 Pro	£479	£562.63
FinePix M603	£219	£257.33
FinePix F410	£255	£299.63

KODAK

CX4210	£99	£116.33
DX6230	£119	£139.83
DX6340	£185	£217.38
DX6440	£229	£269.08

KONICA

KD25	£79	£92.83
KD220Z	£119	£139.83
KD330	£149	£175.08
KD310Z	£189	£222.08
KD410Z	£225	£264.38
KD REVIO C2	£79	£92.83

MINOLTA

DIMAGE X1	£199	£233.83
DIMAGE F100	£249	£292.58
DIMAGE 7Hi	£669	£786.08

NIKON

COOLPIX 2100	£145	£170.38
COOLPIX 3100	£215	£252.63
COOLPIX 4300	£285	£334.88
COOLPIX 4500	£389	£457.08
COOLPIX 5000	£399	£468.63
COOLPIX 5400	£449	£527.58
COOLPIX SQ	£259	£304.33
D100	£1199	£1408.83

OLYMPUS

C350	£155	£182.13
C4000z	£239	£280.83
C50	£209	£239.58
C750	£309	£363.08
C5050 ZOOM	£349	£410.08
MJ3300	£209	£245.58
MJU400	£249	£292.58

SONY

CYBERSHOT U30	£135	£158.63
CYBERSHOT P32	£135	£158.63
CYBERSHOT P52	£149	£175.08
CYBERSHOT U60	£169	£198.58
CYBERSHOT P72	£189	£222.08
CYBERSHOT P8	£225	£264.38
CYBERSHOT P92	£259	£304.33
CYBERSHOT DSC-P10	£279	£327.83
CYBERSHOT DSC-P12	£295	£346.63

Managers Specials - CALL NOW
Discontinued models, one-off specials, ex-demo stock

Stylus Photo 830U and L300 Printer - Camera Bundle

This bundle is the ideal solution for the photo enthusiast who wants to produce professional quality reprints and enlargements. The L300 digital camera allows direct printing to the easy-to-use Stylus Photo 830U inkjet printer.

Main Features

- Stylus Photo 830U
- ▲ A4, 14ppm black, 13.7ppm colour
- ▲ Up to 5760 optimised dpi resolution
- ▲ 6 colour printing for photo-real prints
- ▲ Borderless edge-to-edge printing
- ▲ 4pl Ultra Micro Dot
- ▲ Variable sized droplet technology
- ▲ Intelligent Ink Cartridges
- ▲ EPSON Print Image Frammer
- ▲ EPSON PhotoQuicker 3.4 for simple print layout and finishing options
- ▲ 2nd USB interface for direct print connection to EPSON Digital Cameras
- ▲ Up to 25yrs lightfastness (Epson Photo Media)*

L300 Camera

- ▲ 3.2 MegaPixel Image quality
- ▲ Built-in photo framing technology
- ▲ 3x Optical Zoom lens (F2.8-4.9)
- ▲ Compact, ergonomic Aluminium and Steel body
- ▲ PhotoPC Engine for quick & easy direct printing**
- ▲ 16MB SD Card Included



LIMITED STOCKS

*In accordance with Epson's test conditions
**Compatible EPSON Stylus Photo Printer required

Printer + Camera Bundle

£212.00 EX VAT
£249.10 INC VAT

MEMORY CARDS FOR LESS... MEMORY CARDS FOR LESS... MEMORY CARDS FOR LESS...

MULTIMEDIA CARDS

32MB	£15	£17.83
64MB	£22	£25.35
128MB	£35	£41.13

COMPACT FLASH

64MB	£20	£23.30
128MB	£29	£34.08
256MB	£49	£57.38
512MB	£99	£116.33
1GB	£175	£205.63

SECURE DIGITAL

64MB	£25	£29.38
128MB	£39	£45.83
256MB	£89	£104.58
512MB	£189	£222.08

XO CARD

32MB	£15	£17.83
64MB	£25	£29.38
128MB	£45	£52.38
256MB	£89	£104.58
512MB	£149	£175.08

SMARTMEDIA

32MB	£12	£14.10
64MB	£19	£22.33
128MB	£29	£34.08

CW's SmartMedia cards are manufactured by Samsung, the world's largest memory manufacturer.

SONY CYBERSHOT U10 2 MEGA PIXEL
Awesome Price
£149 EX VAT
£175.08 INC VAT

KONICA KD-220Z 2 MEGA PIXEL
Awesome Price
£119 EX VAT
£139.83 INC VAT

MINOLTA DIMAGE 7Hi
Awesome Price
£669 EX VAT
£786.08 INC VAT

Photo Printers!

See the full range online at: www.cwonline.co.uk

EPSON STYLUS PHOTO R300
▲ 5760dpi optimized resolution
▲ Up to 15 page per minute
▲ Borderless prints up to A4
▲ 6 color A4 printer
Awesome Price
£111 EX VAT
£130.43 INC VAT

HP PHOTOSMART P7550
▲ Memory card slots for computer free printing
▲ 4800x1200 dpi
▲ Borderless 6x4 inch prints
▲ Up to 13ppm
Awesome Price
£199 EX VAT
£229.33 INC VAT

EPSON STYLUS PHOTO RX500	£185	£217.38
EPSON STYLUS PHOTO 950	£222	£260.85
EPSON STYLUS PHOTO 1290S	£244	£286.70

HP PHOTOSMART P7150	£129	£154.33
CANON I9100 PHOTO PRINTER	£319	£377.33
CANON I950 PHOTO PRINTER	£225	£269.33

Special Limited Offers... Only while stocks last!

NIKON COOLPIX 5000
£399
£468.83 INC VAT

CANON POWERSHOT S20
£199
£233.83 INC VAT

CANON POWERSHOT S30
£249
£292.58 INC VAT

EPSON PHOTO PC 3100z
£299
£351.33 INC VAT

CANON POWERSHOT S40
£379
£449.33 INC VAT

FUJI FINEPIX 30i
£199
£233.83 INC VAT

Note: Prices quoted are for cheque, cash, debit cards or buy now pay in 6 months orders only. Written quotations available upon request. Consumers Statutory rights are not affected. Prices exclude carriage at TNT published rates. E&OE. All products and offers subject to Computer Warehouse Limited Terms of Trade available upon request. All trademarks respected. Photographs shown for illustration purposes only. Bundled software supplied on CD or pre-installed. E&OE.

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Computer Warehouse Ltd, No.1 Amalgamated Drive,
 1st Cross Centre, Great West Road, Brentford TW8 9EZ
 The latest Apple gear on display ready for you to evaluate
 in store 'Manager's Specials'



Brand new showroom open!

We are located just off the A4, around
 2 mins west of the Chiswick
 Roundabout, and are just a
 short 5 mins walk from
 Syon Lane BR station.
 The showroom is open
 Monday to Friday 9am -
 5.30pm & Saturdays from
 9am to 5pm.



**THE LARGEST
 LONDON
 APPLE CENTRE**



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 NEW
 PRODUCT**



Focusing modes include One-Shot AF (for fast,
 accurate single-shot focusing), and AI AF
 which can automatically switch to AI servo AF
 for continuous tracking of subject movement.



The 6.3 Megapixel CMOS sensor on the EOS
 300D is almost identical to that found in the
 award-winning EOS 10D which remains the
 benchmark for digital SLR image quality.

Canon EOS 300D

6.3 Megapixel digital SLR

The EOS 300D bundles proven high performance technologies, such as seven-point,
 1/8000s speed predictive auto focus, 2.5 frame per second burst rate, 35-zone metering
 the DIGIC (Digital Imaging Core) image processor, into a camera that is affordable
 much wider range of consumers thanks to its significantly reduced price point.
 believes the EOS 300D to be the single most important consumer SLR camera
 the AE1 in 1976. Just as the AE1 triggered an SLR revolution through being the
 d's first camera with an embedded microcomputer, CW believes the EOS 300D will
 be the point in history when the SLR market shifted irrevocably to digital.
 APS-C sized sensor gives the camera a 1.6x magnification over 35mm film format. A
 EF-S 18-55 f/3.5-5.6 lens has been
 specially developed in order to provide
 300D customers with the equivalent
 35mm zoom range so popular with
 film EOS users. The result is
 high-quality images in a remarkably low
 light, short-length lens.

Main Features

- ▲ 6.3 Million Pixel
- ▲ 7 point Auto Focus
- ▲ Digic Processor
- ▲ ISO speeds of 100, 200,
400, 800 and 1600
- ▲ Connect to compatible
photo printers
- ▲ 35 zone TTL metering
- ▲ Supports the vendor-
independent PictBridge
print standard
- ▲ Weighs just 560g

EOS 300D + EF-S 18-55mm f/3.5-5.6 lens
£729 .00 EX VAT
 £856.58 INC VAT

EOS 300D Body Only
£649 .00 EX VAT
 £762.58 INC VAT

NIKON D100

Compact and lightweight, high performance SLR with 6.1
 effective megapixels. Features 3D Digital Matrix Image
 Control for precise exposure control, adaptive auto white
 balance, and optimal color accuracy.

ACCESSORIES

Nikon EH-5 AC Adapter	£75	£88.19
Nikon CF-D100 Leather Case	£45	£52.28
Nikon MB-D100 Battery Pack	£250	£293.76
Nikon Capture 3 Software for D100	£120	£141.20



Awesome Price (Body Only)

£1199 .00 EX VAT
 £1400.33 INC VAT

CANON EOS D10

The digital SLR incorporating a 6.3 Megapixel CMOS
 sensor, with a seven point wide area autofocus system,
 fast three frames per second burst rate and an ergonomic
 super-tough magnesium alloy body shell.

ACCESSORIES

CB-L Charger	£40	£47.20
ACK-E5 AC Adapter	£60	£70.28
BGED3 Battery Grip	£150	£176.28
20-35mm f/3.5 usm lens	£499	£586.28



Awesome Price (Body Only)

£1099 .00 EX VAT
 £1291.33 INC VAT

KODAK DSC-PRO 14N

Designed for professional portrait, wedding, and
 commercial photographers, the DCS Pro 14n camera is
 one of the most technologically advanced cameras on the
 market. A massive 13.89 million pixels.

ACCESSORIES

Kodak DSC Pro 14N Charger/AC Adaptor	£145	£170.28
Kodak DSC Pro 14N Spare Battery	£98	£115.19
Kodak DSC Pro 14N DC Power Module	£49	£57.28
Kodak DSC Pro 14N 4-pin IEEE Cable	£49	£57.28



Awesome Price (Body Only)

£3295 .00 EX VAT
 £3871.63 INC VAT

Nikon

**Superior quality digital cameras
 offering superb images**

COOLPIX 2100

Designed to offer a perfect combination of quality, ease of use,
 reliability and affordability for even the first time digital
 camera owners, COOLPIX 2100 is an ideal camera for digital family fun!

In Features

- ▲ 2.0 Effective Megapixels (COOLPIX2100)
- ▲ 3x Optical Zoom-Nikkor lens
- ▲ 14 Scene Modes
- ▲ Date imprint and Photo trim functions
- ▲ Easy browsing, retouching, e-mailing software
- ▲ 4 Movie Modes



CW Awesome Price
£145 .00 EX VAT
 £170.33 INC VAT

COOLPIX SQ

Digital camera unlike any ever made. A unique statement of style,
 ease and performance, the Coolpix SQ hides within its square body
 features usually reserved for higher-end digital cameras.

In Features

- ▲ 3.1 effective megapixels
- ▲ 8x optical Zoom-Nikkor lens, Movie mode + audio
- ▲ Stylish full-metal body, Slim design
- ▲ 9-area Multi AF, Built-in Speedlight
- ▲ Macro shooting as close as 4cm
- ▲ 15 Scene Modes



CW Awesome Price
£259 .00 EX VAT
 £304.33 INC VAT

COOLPIX 5700

Coolpix 5700 is a 5 million pixel compact SLR-style digital
 camera sporting a dynamic 8x optical zoom lens with an amazing
 length of up to 280mm. Pro results and great value.

In Features

- ▲ 8x Optical Zoom-Nikkor Lens, an equiv. zoom
 range of 35mm-280mm in 35mm [135] format
- ▲ Two ED (Extra-low Dispersion) lens elements
- ▲ 5.0-megapixel images at 2,560 x 1,920 pixels
- ▲ Shutter speeds from 1/4,000 to 8 sec
- ▲ RAW image (NEF format) mode



CW Awesome Price
£659 .00 EX VAT
 £774.33 INC VAT

Coolpix 3100

MacUser Labs Best!

Get more from your digital photography

The Coolpix 3100 digital cameras is truly
 easy to use. It's stylish appearance and
 large, ergonomically designed buttons make
 taking great pictures fast and simple, so
 even first-time users can fully experience
 the fun. Plus the friendly functions, Nikon
 quality and shirt-pocket compactness make
 picture-taking enjoyable wherever you go.

Main Features

- ▲ 3.2 Effective Megapixels
- ▲ 3x Optical Zoom-Nikkor lens
- ▲ 14 pre-set Scene Modes offer
 more flexibility and creative. The
 four handy Scene Assistance
 function helps to achieve a perfect
 picture composition.
- ▲ 4 Movie Modes
- ▲ Date imprint and Photo trim
- ▲ One-touch upload
- ▲ Easy browsing, retouching,
 e-mailing and more with
 Nikon View software
- ▲ Award winner!



- 3.2
MEGAPIXELS
- 3X
OPTICAL ZOOM
- 4
MOVIE
MODES
- 4X
DIGITAL ZOOM



CW Awesome Price
£215 .00 EX VAT
 £252.63 INC VAT

OPEN 6 DAYS A WEEK
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 See page 31 for details & conditions.

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 Fax us a list of required items.

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This is...

"Epson printers are just sublime."

"I've got one and so has my mate."

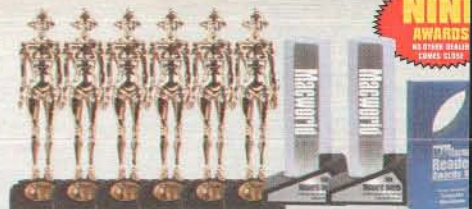
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Only CW has been awarded no less than NINE Macintosh Magazine Reader Awards in 6 Years

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CORPORATE SALES

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NINE AWARDS
NO OTHER READER
AWARDS CLAM

EPSON

Perfection 3170 Photo

Scan prints and transparencies

This is the scanner for experienced users and photo enthusiasts, it captures amazing 3200dpi scans at very high speed. It has a built-in Film Adapter for 35mm negatives/positives and 6 x 9cm medium format, while the TPU lamp has been chromatically optimised for film scanning. An optional Automatic Document Feeder (ADF) for up to 30 pages is available for higher volume document scanning.

Film handling

The Built-in Transparency Unit includes robust film holders that are stored safely in the scanner lid and enable a range of film formats, including medium format on the EPSON Perfection 3170 Photo, to be scanned quickly and easily. Scanning directly from negative or positive film is useful for achieving the best results when printing enlargements.

CW Awesome Price

£149.00 EX VAT
£175.08 INC VAT



Main Features

- ▲ 3200dpi resolution for picture perfect reproduction
- ▲ EPSON Scan tool including Color Restoration and Dust Removal
- ▲ Built-in Transparency Unit also supports 12 x 35mm frames or medium formats
- ▲ Includes great software such as Adobe® Photoshop® Elements 2.0
- ▲ 4 Quickstart buttons plus a power switch
- ▲ USB 2.0 connection
- ▲ Optional Automatic Document Feeder for multiple scans of up to 30 sheets

Perfection 1670 & 1670 Photo

Features include a new colour restoration software bringing originals back to life. This, together with a sleek new design and all the exclusive EPSON technologies ensure exceptional quality, speed and ease of use.

- Class leading 1600dpi resolution for clear, bright images
- USB 2.0 hi-speed connection
- Colour restoration and dust removal features
- Great software included
- Photo version includes: built-in Transparency Unit for easy photo handling & added photo facilities



Epson Perfection 1670

£60.00 EX VAT
£70.50 INC VAT

Epson Perfection 1670 Photo

Scans film and prints
£75.00 EX VAT
£88.13 INC VAT

Perfection 2400 Photo

Exceptional quality, ultra high-speed A4 scanner for advanced users.

- True 2400 x 4800dpi
- 48-bit in and out colour depth
- Tranny adapter



CW Awesome Price

£112.00 EX VAT
£131.60 INC VAT

Perfection 3200 Photo

The first flatbed scanner with an optical resolution of 3,200 x 6,400 dpi

- USB 2.0 & FireWire
- >3.4 Density
- Silverfast SE 6
- Tranny adapter



CW Awesome Price

£224.00 EX VAT
£263.20 INC VAT

Top value cameras:

L-300

Make digital photos and print them out immediately on a printer - even without a PC!

- 'EPSON PhotoPC Engine'
- 3.2 megapixels
- Integrated photo framing
- Lens with 3x optical zoom
- 16-MB-SD card
- Long AA type alkaline battery life
- Great CW value



CW Awesome Price

£189.00 EX VAT
£220.08 INC VAT

L-400

Packed with features that bring photo fun and creativity to every member of the family.

- 'EPSON PhotoPC Engine'
- 4.07 megapixels
- Integrated photo framing
- Lens with 3x optical zoom
- 16-MB-SD card
- Long AA type alkaline battery life
- Great CW value



CW Awesome Price

£249.00 EX VAT
£292.58 INC VAT



EMP-TW10

Multimedia Projector

Imagine being able to watch your favourite films, home videos, and sport, or even play games on a giant screen in your own home. The stylish new EPSON EMP-TW10 projector will transform your living room into a cinema within seconds, giving you a beautifully clear picture. All you need to do is add the popcorn.

dreamio.

Turn your living room into a movie theatre.

CW Awesome Price

£840.00 EX VAT
£987.00 INC VAT

Main Features

- ▲ Widescreen projector - image size from only 2m
- ▲ Superb picture quality - bright and vivid colour
- ▲ Easy to use - connects TV, DVD, video, PC, Mac games consoles
- ▲ Home cinema luxury at affordable price
- ▲ Amazing big screen experience for films, sports and games
- ▲ Comes with remote control
- ▲ Stylish, compact design



EMP-S1 Projector

High performance at a low price. Features high functional reliability, ease-of-use and a stylish design. With a brightness of 1,200 ANSI lumens, the EMP-S1 is ideal for use in the classroom, as well as at home or in the office.

- 1200 ANSI lumens. Comes with presentation remote control kit
- Ultra quiet 33db for effective presentations
- 2000hrs lamp life, low cost of ownership
- User friendly menu
- Electronic keystone correction
- EPSON's 3 year next day, on-site repair or replace warranty

Great for classroom, office or home.

FREE STYLUS PHOTO 820U WITH EMP-S1 PROJECTOR

Ends Dec 31st 2003

CW Awesome Price

£756.00 EX VAT
£888.30 INC VAT

High quality laser printers

AcuLaser C1900

The EPSON AcuLaser C1900 breaks new ground for professional networked enterprises requiring cost-effective A4 colour and monochrome laser printing. It is a compact, networkable and professional colour laser solution that will revolutionise your printed output with its exceptional quality, ease-of-use and system compatibility. What's more, it's available pre-configured in four specific options to match your exact needs.

- As cost-effective & easy to run as a monochrome laser
- Prints 16ppm mono and 4ppm colour
- Superb 2400dpi photo-like print quality with EPSON AcuLaser colour ASIC technologies
- USB, Parallel and 10/100BaseTX network ready
- Handles up to 700 sheets of paper at once from multiple media sources
- Wireless 802.11b, Adobe® PostScript® and two-sided printing options

AcuLaser C1900PS £796 ex VAT (£935.30 inc)

As above but with Postscript level 3 96MB RAM for faster print processing



COLOR LASER

Compact, networkable and great value.

CW Awesome Price from

£695.00 EX VAT
£816.63 INC VAT

EPL-6200L

Compact A4 mono personal laser - the ideal printing solution for small offices and home offices.

- Up to 20ppm
- Up to true 600dpi
- 10.3secs to 1st page
- PC and Mac
- 150 page cassette



CW Awesome Price

£154.00 EX VAT
£180.96 INC VAT

AcuLaser C4100

High performance colour and mono printing solutions - available all in one.

- Up to 24 ppm colour & mono
- 2400 dpi resolution
- USB & Ethernet
- PostScript optional (C4100PS @ £1569 ex vat £1843.58 inc)



AcuLaser C4100 from

£1349.00 EX VAT
£1588.08 INC VAT

Note: Prices quoted are for cheque, cash, debit cards or buy now pay in 6 months orders only. Written quotations available upon request. Consumers Statutory rights are not affected. Prices exclude carriage at TNT published rates. E&OE. All products and offers subject to Computer Warehouse Limited Terms of Trade available upon request. All trademarks respected. Photographs shown for illustration purposes only. Bundled software supplied on CD or pre-installed. E&OE.

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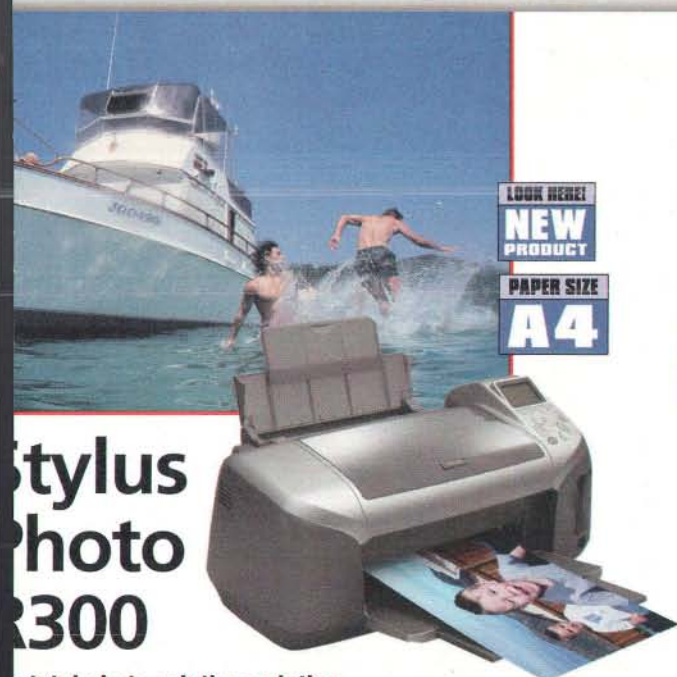
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**CW NORTH
BUSINESS
SALES**

**CW NORTH
EDUCATION
SALES**

VIDEO
EDUCATION
CAMERAS
PRINTERS
ACCESSORIES
SOFTWARE
STORAGE
DISPLAYS
SCANNERS
MEMORY
MACS



LOOK HERE!
**NEW
PRODUCT**

PAPER SIZE
A4

Stylus Photo R300

The total photo printing solution

EPSON Stylus Photo R300 is the total photo printing solution for all digital camera users who have been waiting for. It combines the quality of EPSON's superb 6-colour photo imaging system with the ability of printing directly from digital cameras, memory cards and wireless devices. Now you can produce amazing, long lasting photos at an outstanding resolution of up to 5760 optimised dpi* - quickly, effectively and without even using a computer.

EPSON Stylus Photo R300 offers extensive standalone printing functionality, which is easily controlled via the built-in LCD screen.

Formulated inks ensure improved EPSON Micro Piezo™ print head so it's even easier to produce photos that look great and last longer ever.

CW Awesome Price

£111.00 EX VAT
£130.43 INC VAT

Main Features

- ▲ Borderless printing up to A4
- ▲ Up to 5760 optimised dpi on suitable media
- ▲ Exceptional, durable photo results with 6 colour inks
- ▲ Individual ink cartridges
- ▲ Direct printing from a wide range of memory cards
- ▲ Print speeds of up to 15ppm black text & 15ppm colour
- ▲ PictBridge and USB DIRECT-PRINT supported
- ▲ EPSON PhotoQuicker 3.5 software
- ▲ EPSON PRINT Image Framing software
- ▲ Win and Mac compatible



LOOK HERE!
**NEW
PRODUCT**

**ALL-IN-ONE
PRINT
COPY
SCAN**

Stylus Photo RX500

Scan, copy and direct printing

The EPSON Stylus Photo RX500 is a break-through all-in-one home photo printing solution. It combines premium quality photo printing, high performance scanning and standalone copying in one space and cost saving solution. With its high definition 6-colour quality, you can produce superb, long-lasting photos at up to 5760 optimised dpi* in a borderless photo-lab style up to A4 size. With an integrated Transparency Unit and photo restoration software, even old films and photos can be brought back to life. All your home photo needs catered for in one solution!

This all-in-one solution not only saves space, it also lets you print and archive photos without using a PC. With the built-in card reader you can print high definition photos directly from your digital camera's memory card.

5760 dpi

Main Features

- ▲ Borderless prints on A4
- ▲ EPSON Micro Piezo™ print head for improved photo detail
- ▲ Advanced 6 colour printing for superior photo quality
- ▲ Print speeds of up to 17ppm black text & 16ppm colour
- ▲ 2400dpi CCD scanner
- ▲ Integrated Transparency Unit (up to 6x35mm negs)
- ▲ Direct printing from all popular memory cards
- ▲ Color Restoration feature
- ▲ EPSON PRINT Image Framing software
- ▲ Win and Mac compatible

CW Awesome Price

£185.00 EX VAT
£217.38 INC VAT

Stylus C64

Ideal for all types of applications from school projects and web printing to occasional photos.

7ppm black, 9ppm colour
• PL variable droplet size
• DURABrite ink for superb printing on all media
• Borderless printing up to 15x15 cm
• 7600dpi opt. res
• SB & parallel
• Separate ink carts

CW Awesome Price

£52.00 EX VAT
£61.10 INC VAT

Stylus C84

4 colour printer home and office printer with cost efficient separate ink cartridges.

- 22ppm black, 12ppm colour
- Borderless printing up to A4
- New DURABrite ink for superb quality on specialist photo media through to uncoated plain paper
- 3pl. variable droplet
- 6 in 1 Card reader
- Optimised 5760 dpi

CW Awesome Price

£77.00 EX VAT
£90.48 INC VAT

Stylus Photo 1290S

Advanced A3+ sized photo printer covering edge to edge, exquisite printing without need for cropping
• 880 x 720dpi printing
• 4ppm black, 9ppm colour
• Advanced 6 colour printing
• Borderless prints on 100mm, A4, A3 & 3+ media
• SB and Parallel for Win and Mac

CW Awesome Price

£244.00 EX VAT
£266.70 INC VAT

Stylus Photo 950

With this printer, a new level of excellence is achieved, fulfilling your every output need as a creative photographer.

- Breathtaking photographic quality at 2880 x 1440dpi
- Direct CD printing
- Individual ink cartridges
- Borderless printing
- Paper cutter for roll media
- Great software

CW Awesome Price

£222.00 EX VAT
£260.65 INC VAT

LOOK HERE!
**NEW
PRODUCT**

Stylus CX3200

The EPSON Stylus CX3200 features EPSON's latest printing and scanning technologies and is a quick and easy standalone colour copying facility, making it perfect for a wide range of home and small office activities.

- 5760 optimised dpi for true photo quality output
- Borderfree printing for perfect photo prints
- 14ppm high speed printing
- Intuitive LCD interface
- EPSON Smart Panel software
- 6000dpi, 48-bit scanning

CW Awesome Price

£74.00 EX VAT
£88.95 INC VAT

LOOK HERE!
**NEW
PRODUCT**

Stylus CX5400

The EPSON Stylus CX5400 combines high performance inkjet printing, scanning and photocopying in one compact, stylish and easy to operate unit. A complete desktop solution that integrates three devices in one.

- Up to 5760 optimised dpi on suitable media
- Borderfree printing and copying up to A4
- Print: 11ppm colour, 22ppm black
- A4 CCD scanner with 1200 x 2400dpi resolution

CW Awesome Price

£112.00 EX VAT
£131.60 INC VAT

LOOK HERE!
**NEW
PRODUCT**

Stylus CX6400

An excellent all-in-one solution for the home and office. EPSON DURABrite inks ensure superb colour quality even on plain or recycled media, while a built-in multi-compatible memory card reader adds amazing photo printing flexibility.

- 5760 optimised dpi for true photo quality output
- Borderfree copying & printing up to A4
- Print: 11ppm colour, 22ppm black
- 1200 x 2400dpi scanning res. for sharp, faithful photos

CW Awesome Price

£134.00 EX VAT
£157.45 INC VAT

*On suitable media

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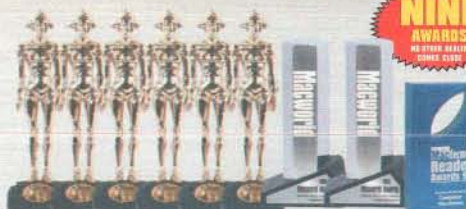
This is...

"That 'ol CW - he's my one true mentor - you'll find him loitering at the Digital Centre."

computer warehouse



Apple Centre



NINE AWARDS NO OTHER READER AWARDS HAVE EVER WON MORE

Only CW has been awarded no less than NINE Macintosh Magazine Reader Awards in 6 Years

EDUCATION DEPT

CORPORATE SALES

APPLE DIRECT ACCOUNT

Canon Printers..

i550 Color Inkjet

Professional quality and super speed. High speed printing at 18ppm in mono and 11ppm in color, with a print resolution of 4800 x 1200dpi ensure exceptional quality at ultra fast speeds, with no compromise.

Main Features

- ▲ Print resolution of 4800 x 1200 dpi
- ▲ Up to 18ppm mono and 11ppm color
- ▲ Single Ink technology
- ▲ Advanced Microfine Droplet Technology
- ▲ Borderless printing & Vivid photo



CW Awesome Price

£99.00 EX VAT
£116.33 INC VAT

i350 Color Inkjet

Delivers exceptional print quality. Offering a high resolution of up to 4800 x 1200 dpi, Canon's advanced Microfine Droplet Technology™ and borderless printing on both 4" x 6" and big 5" x 7" formats.



CW Awesome Price

£59.00 EX VAT
£70.33 INC VAT

i470D BubbleJet

Prints directly from all popular memory card types, compatible digital camera or camcorders. Features Canon's advanced Microfine Droplet Technology™ and an LCD panel which allows you choose prints and settings.



CW Awesome Price

£145.00 EX VAT
£175.33 INC VAT

i70 Portable Printer

At just 310mm wide, this printer boasts the most precise and accurate print capability ever found in a portable printer. Perfect for the home and business executives who need a top-range printer whilst on the move.



CW Awesome Price

£175.00 EX VAT
£209.33 INC VAT

i950 Photo Printer

New Bubble Jet i950 Canon with even higher print resolution and smaller ink droplet size, setting new standards for professional photo printing. Max resolution of 4800 x 1200 dpi, six-ink system and advanced MDT™.



CW Awesome Price

£225.00 EX VAT
£274.33 INC VAT

i9100 A3 Printer

The Bubble Jet i9100 brings 4800 x 1200 dpi photo printing technology to the A3+ market for the first time and sets a new standard in fast, high-resolution printing. Great colour reproduction quality with accuracy & speed.



CW Awesome Price

£319.00 EX VAT
£374.33 INC VAT

Canon Color Scanners

FS4000US Film Scanner

The ultimate in professional film scanning technology. Optical resolution is 4000 dpi. 42-bit colour and FARE technology provides infrared detection of minor imperfections / dust on originals for automatic retouching.



CW Awesome Price

£489.00 EX VAT
£587.33 INC VAT

Canoscan 9900F - 3200 x 6400 dpi

The high quality optical system and the ability to scan up to 4 x 5" medium format film make the 9900F ideally suited to high end photographer / graphic arts professional. Includes FARE Level 2 (reconstruction of colour & grain equalisation)



CW Awesome Price

£229.00 EX VAT
£278.33 INC VAT

Canoscan Lide 20

The ideal scanner for beginners. Stylish and easy to install and use, it incorporates Canon's LED indirect exposure technology, and offers high resolution scans with consistent results.



CW Awesome Price

£55.00 EX VAT
£66.33 INC VAT

Canoscan Lide 30

The ideal purchase for users who want a great looking scanner that produces 1200 x 1400 dpi quality. Easy to install and use, it provides high resolution and speedy scanning.



CW Awesome Price

£69.00 EX VAT
£83.33 INC VAT



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digital Canon Imaging across networks

Canon DV Camcorders..



MV650i DV I/O

All in one digital camcorder with a high performance lens. Packed with easy to use next generation features including a multi-media card to capture and download still images. Includes new CCD & MACS technology.

- ▲ 22x Optical, 440x Digital Zoom
- ▲ 2.5 inch LCD, 1/6" CCD 540K
- ▲ Night Mode, Photo Mode
- ▲ Analogue In, Built in Charger
- ▲ Accessory Shoe
- ▲ Audio Dubbing
- ▲ Firewire DV In & Pass-through
- ▲ SD/Multi-Media Card slot
- ▲ Free 0.6x wide-angle attachment
- ▲ Capture Motion-JPEG video clips

CW Awesome Price

£479.00 EX VAT
£562.33 INC VAT



MV600i DV Cam

New 1/6-inch 800,000-pixel CCD, to produce even higher resolution movies. Incorporates the MACS to optimise best quality image settings for movies and stills - displayed on TV, PC, or printed via the Direct Print function

- ▲ 18x Optical, 360x Digital Zoom
- ▲ 2.5 inch LCD, 1/6" CCD 540K
- ▲ Night Mode, Photo Mode
- ▲ Analogue In, Built in Charger
- ▲ Audio Dubbing, PCM Stereo
- ▲ Image Stabiliser
- ▲ Manual Focus
- ▲ IEEE1394 (Firewire) (DV in) & Pass through
- ▲ Digital Effects (Rec & Play)
- ▲ Accessory Shoe

CW Awesome Price

£379.00 EX VAT
£445.33 INC VAT



MVX10i DV Cam

Offers superb functionality combined with superior technology. Shoots movies & stills and can be used as a webcam.

- ▲ 10x Optical, 200x Digital Zoom
- ▲ 2.2 Megapixel CCD
- ▲ Built-in light guide flash
- ▲ 16.9 High Resolution Mode
- ▲ 2.5" colour LCD and viewfinder
- ▲ Digital Camera functions inc. AEB, Selectable AF frame function, continuous shooting
- ▲ Direct Print and PictBridge compatible for photo printing
- ▲ Network Functions, DV Messenger 2.0
- ▲ DIGIC DV

CW Awesome Price

£779.00 EX VAT
£915.33 INC VAT



MVX3i DV Cam

With the latest technology, extensive manual functions, ergonomic body and the ability to shoot both movies and stills, MVX3i offers superb creative

- ▲ 10x Optical, 200x Digital Zoom
- ▲ 2.2 Megapixel CCD
- ▲ Optical Image Stabiliser
- ▲ RGB Primary Color Filter
- ▲ 3.5" Colour LCD and Color viewfinder
- ▲ High Resolution 16:9 Mode
- ▲ Creative manual functions
- ▲ Digital Camera functions
- ▲ Direct Print and PictBridge compatible for photo printing
- ▲ DV Messenger 2.0
- ▲ DIGIV DV

CW Awesome Price

£879.00 EX VAT
£1055.33 INC VAT

Canon Digital Cameras..

DIGITAL IXUS 400



- ▲ 4M Effective Pixels
- ▲ 3 x Optical zoom lens (36 - 108 mm 35mm)
- ▲ 3.2 Digital Zoom
- ▲ Ultra compact size with new bright white finish

Awsome Price

£315.00 EX VAT
£370.13 INC VAT

POWERSHOT A80



- ▲ 4.0M Pixels CCD
- ▲ 3 x Optical zoom (38 - 114 mm 35mm)
- ▲ Vari-angle LCD
- ▲ 12 shooting modes
- ▲ 9 point AiAF
- ▲ DIGIC processor

Awsome Price

£249.00 EX VAT
£287.33 INC VAT

EOS 300D



- ▲ 6.3 Million Pixel
- ▲ 7 point Auto Focus
- ▲ Digic Processor
- ▲ Connect to compatible photo printers
- ▲ 35 zone TTL metering
- ▲ Weighs just 560g

Body Only

£649.00 EX VAT
£762.58 INC VAT

POWERSHOT S50



- ▲ 5.0M Pixels CCD
- ▲ 3 x Optical zoom lens (35 - 105 mm 35mm)
- ▲ Smooth Digital Zoom
- ▲ 1.8" TFT colour screen
- ▲ 9 point AiAF or single centre point focusing

Awsome Price

£349.00 EX VAT
£410.33 INC VAT

6 TIME MAC USER READER AWARD WINNER

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High volume A3 colour laser

Konica Minolta have launched their new high-volume color laser
printer the magicolor® 7300. Offering oversize A3 paper size,
Postscript support, standard networking Photo ART photo like print
quality and print speeds of 21ppm full colour. The magicolor® 7300
is a versatile heavy-duty print solution within the budgets of most
graphics art and business workgroups.
The magicolor® 7300 raises standards for high performance colour
laser printing. It offers exceptional productivity and quality with a low
cost of ownership; making it the obvious choice for anyone needing
to produce high volumes of colour documents on-demand.

Main Features

- ▲ Up to 600 x 600 dpi Photo ART™ con-tone
- ▲ Up to 21ppm A4, 11ppm A3 color
- ▲ Ethernet (10/100BaseTX) USB & Parallel
- ▲ 128Mb standard upgradeable to 512Mb
- ▲ A3+, A3 & A4 2 standard input trays of 250 and 500 sheets
- ▲ Optional hard drive and duplex function

**PAPER SIZE
A3**

CW Awesome Price

£2279.00 EX VAT
£2677.83 INC VAT



The muscle to print 21 colour
A4 ppm, or 11 A3 ppm
regardless of quality setting.



Add up to two lower 500
sheet paper feeders.
Call for details.



With its oversize A3
capabilities, it's ideal for
proofing your spreads.



Fast print speed also makes
it ideal for printing short run
colour brochures & leaflets.



Add a duplexer for automatic
double-sided printing.
Call for details.

MAGICOLOR® 3300

Fast, quality color printing

The Konica Minolta magicolor® 3300 enables
businesses to produce premium quality colour reports,
presentations, spreadsheets and brochures with
quality, speed and reliability they can depend upon. Its
4ppm colour print speed, standard duplex and
work card makes it an inspired upgrade for tired
workgroup printers.

Main Features

- ▲ Up to 1200 x 1200dpi resolution
- ▲ 24 ppm color & mono. Postscript Level 3
- ▲ 200-Sheet Multipurpose Tray
- ▲ 10/100BaseTX Ethernet, USB and parallel interfaces
- ▲ 256MB RAM (upgradeable to 384MB RAM)

Information on how to upload images for test printouts
to: www.konicaminoltaprinters.co.uk

**PAPER SIZE
A4**

CW Awesome Price

£1549.00 EX VAT
£1820.08 INC VAT



MAGICOLOR® 2350

Good things come in small packages

This feature rich color laser printer is smaller than many
computer monitors making it a perfect fit when space is at
a premium. Despite its modest size the magicolor® 2350
makes no compromises with performance and features.
Printing 4pp color/17pp mono with a choice between con-
tone laser print quality for reproduction of scanned
images or 1200x1200dpi for crisp business documents

Main Features

- ▲ Up to 1200 x 1200dpi resolution
- ▲ 17 ppm mono, 4ppm color. Postscript Level 3
- ▲ 200-Sheet Multipurpose Tray
- ▲ 10/100BaseTX Ethernet, USB and parallel interfaces
- ▲ 128MB RAM (upgradeable to 384MB RAM)

For information on how to upload images for test printouts
go to: www.konicaminoltaprinters.co.uk

**PAPER SIZE
A4**

CW Awesome Price

£799.00 EX VAT
£938.83 INC VAT



With its options, magicolor 2350 can
be adapted exactly to your needs!

MAGICOLOR® 3100

Amazingly quick colour laser printer

The revolutionary new PRISM technology, makes the new magicolor 3100 perform
amazingly fast at 16 pages per minute. Features include built-in networking,
automatic colour control, and some of the most useful self help tools to guide users
through every step of the printing process.

- ▲ Resolution - 1200 x 1200 dpi, 10/100BaseTX
- ▲ PostScript Level 3, PDF and PCL
- ▲ Up to 16ppm, mono 16ppm color
- ▲ 256MB (384MB RAM max)
- ▲ Duplex standard (double printing)

CW Awesome Price

£1240.00 EX VAT
£1457.00 INC VAT



PAGEPRO 9100

Fast, high quality A4/A3 laser printing

The PagePro 9100 has been designed to produce outstanding quality 1200 x 1200
dpi A4 and A3 prints. The well-detailed printouts are suitable for use in all
professional business applications including reports, correspondence and
presentations.

- ▲ 1200 x 1200dpi ▲ 64MB RAM
- ▲ 35ppm A4, 19ppm A3
- ▲ Ethernet 10BaseT/100BaseTX
- ▲ Postscript Level 3, PDF and PCL
- ▲ USB ▲ Optional duplexing

**PAPER SIZE
A3**

CW Awesome Price

£875.00 EX VAT
£1028.13 INC VAT

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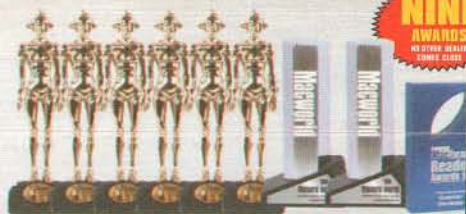
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"Looking better than my sisters' locks, it's the new 7300 from Xerox."

Only CW has been awarded no less than **NINE** Macintosh Magazine Reader Awards in 6 Years

EDUCATION DEPT **CORPORATE SALES** **APPLE DIRECT ACCOUNT**



XEROX PHASER 6250

A4 Color laser printer

Powered by an impressive 700 MHz PowerPC Processor, the Phaser 6250 helps you get the most out of each workday. With standard 2400 dpi print quality and amazing ease-of-use, you can print what you like the way you like - automatically.

Main Features

- ▲ 24 ppm in color or black and white
- ▲ Single-pass
- ▲ 2400 dpi standard
- ▲ 12 seconds first page out time
- ▲ 128 MB of memory
- ▲ 700MHz processor
- ▲ Media input capacity up to 1,600 sheets
- ▲ Network, duplex & multi-tray models available - Call!



CW Awesome Price from only

£1159

£1361.83 INC VAT

LOOK HERE!
NEW PRODUCT

XEROX PHASER 7300

A3 Color printer

Sets the world speed record for office desktop color printing at 30 ppm color and 37 ppm black. This single-pass printer provides up to 2400-dpi color at a price any business can afford. The Phaser 7300, the latest addition in the line of award-winning Xerox office printers.

Main Features

- ▲ 30 ppm color, 37 ppm black
- ▲ Single-pass
- ▲ Up to 2400 dpi
- ▲ 500 MHz processor
- ▲ 128 MB of memory (up to 512 MB plus 20GB disk)
- ▲ Media input capacity up to 2,850 sheets
- ▲ Network, duplex & multi-tray models available - Call!



CW Awesome Price from only

£2349

£2760.08 INC VAT

XEROX PHASER 7700

A3 Color laser printer

Single-pass A3 laser printer combines exceptional color quality with the phenomenal speed of 22 ppm for both color and black and white with 1200 dpi print quality and automatic color-calibration. Prints A3 with full bleed and standard automatic 2-sided printing.

Main Features

- ▲ 22 ppm color and black and white, 1200 dpi
- ▲ Automatic 2-sided printing as standard
- ▲ High performance 500 MHz G4 class processor
- ▲ 128MB RAM (512MB max)
- ▲ 5GB hard disk drive
- ▲ Network & multi-tray models available - Call!



CW Awesome Price from only

£3995

£4894.13 INC VAT



THE DOCUMENT COMPANY

XEROX

PHASER 8200

A4 Solid Ink Color Printer

Redefining your office printer

The affordable Phaser 8200 solid ink printer offers the most easy to use, flexible and environmentally friendly office color printer platform. Producing consistently vibrant and stunning color prints the Phaser 8200 is ideal for any office application from customer facing documents to internal reports and memos.

Main Features

- ▲ Up to 16ppm color
- ▲ 9 sec first-page-out time
- ▲ Intelligent Ready feature means that the Phaser 8200E is ready when the user is - no waiting for it to warm up
- ▲ Consistently brilliant 1200 dpi colour
- ▲ Superb solid ink technology
- ▲ Fast 300 MHz PowerPC RISC processor

Awesome Price from only

£649

£762.58 INC VAT

LOOK HERE!
NEW LOW PRICE

- ✓ Advanced ColorS solid ink technology delivers crisp, vibrant colour and smooth transition at blazing speeds
- ✓ Legendary solid ease-of-use - as easy to load as a stapler

PHASER 8200E RANGE

8200E B USB	£649.00	£762.58
8200E N Ethernet	£799.00	£962.58
8200E DP Ethernet, Duplex	£999.00	£1199.58
8200E DX Ethernet, Duplex, Multi-Tray	£1699.00	£2049.58

GCC printers

On-site Elite Color 16 demos available. Call for details

Single pass color laser printer

A color laser printer that incorporates "single-pass" print technology which significantly decreases the time it takes to produce output by reducing the number of times a sheet of paper passes the imaging drum from four to one. - Meaning you'll be printing a snappy 16 ppm in both color and mono at razor sharp resolutions of up to 1200 dpi.

Main Features

- ▲ Single-pass technology
- ▲ 1200 x 1200 dpi resolution
- ▲ 16 pages per minute speed
- ▲ 256MB RAM
- ▲ Up to 8.3" x 13.84" (A4+)
- ▲ Postscript Level 3
- ▲ Ethernet 10/100 BASET, USB 2.0 & TCP/IP

LOOK HERE!
NEW PRODUCT

CW Awesome Price from

£1399

£1643.83 INC VAT

Elite Color 16
Awesome COLOR Lasers

ELITE 16 SERIES

Elite Color 16DN 1200 dpi	£1399	£1643.83
Elite Color 16DNe Adds enhanced networking capabilities: Novell NetWare, SNMP etc.	£1499	£1761.83



ELITE 12 SERIES

A4 edge to edge quality printing

The Elite 12/1200N provides true 1200 x 1200 dpi output at 12 pages per minute. It also includes standard USB, Parallel, 10BaseT Ethernet support and ships with all the software necessary to connect to almost any Mac or Windows network.

Main Features

- ▲ A4 mono
- ▲ Up to 1200dpi
- ▲ Up to 64MB
- ▲ Postscript Level 2

12/600 Special Price - Only while stocks last	
Elite 12/600 8MB 600dpi	£349.00
Elite 12/1200 16MB 1200 dpi	£449.00



ELITE 21 SERIES

330Mhz - now even faster than ever

With print speeds up to 21 pages per minute, razor-sharp 1200 dpi resolution, and built-in connectivity options such as 10/100 BaseT Ethernet, USB, and bi-directional parallel this workgroup printer will offer you better overall quality and the best value for your money!

Main Features

- ▲ A4 mono
- ▲ 1200dpi prints
- ▲ Up to 256MB
- ▲ Up to 64MB
- ▲ Postscript Level 2

Elite 21 N 16MB	£699.00
Elite 21 DN 32MB Duplex	£799.00
Elite 21 SE 64MB	£999.00



ELITE XL 20 SERIES

Oversize edge-to-edge printing

The new generation workgroup printers are high-octane performers more ways than one. First, there's pure speed. A full 20 pages per minute. That's one page every three seconds. So because they print faster, you'll be done faster.

Main Features

- ▲ A3 plus mono
- ▲ Up to 1200dpi
- ▲ Up to 64MB
- ▲ Postscript Level 2

Elite XL 20/600 600dpi	£799.00
Elite XL 20/800 800dpi	£1099.00
Elite XL 20/1200 1200dpi	£1399.00

Note: Prices quoted are for cheque, cash, debit cards or buy now pay in 6 months orders only. Written quotations available upon request. Consumers Statutory rights are not affected. Prices exclude carriage at TNT published rates. E&OE. All products and offers subject to Computer Warehouse Limited Terms of Trade available upon request. All trademarks respected. Photographs shown for illustration purposes only. Bundled software supplied on CD or pre-installed. E&OE.

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your accurate prints**

PowerRIP X™ is a PostScript Level 3 Compatible RIP
(Image Processor) for Epson Inkjet Printers
designed to be used with Apple's OSX 10.2 or later. All
OSX 10.2 applications can print directly to PowerRIP X.
All OSX 10.2 applications can print directly to
PowerRIP X and OS 9 applications in ASCII format.
PowerRIP X provides the additional controls and features
used by the graphic arts professional and makes use of
UPS printing architecture and the printer sharing
into Apple's OSX 10.2. The combination of iProof's
own ICC profiles and printer specific PPDs allows you
to print high quality images and smooth crisp type to
55 Epson colour ink jet printers. The correct colour
profiles are also AUTOMATICALLY selected at print time,
selecting the media type
resolution. It is now easier
ever with Apple's OSX
PowerRIP X to create
accurate prints from
Epson inkjet printer.

X Now
supports
Panther
10.3



**UPGRADES
FOR CURRENT PRICING
CALL NOW**

POWER RIP X VERSIONS

PowerRIP X MacOS 10.2 & later	£199	£233.83
PowerRIP X-LF MacOS 10.2 & later	£659	£774.33

Features PowerRIP X

PowerRIP X™ is a PostScript Level 3
compatible RIP for Epson Inkjet Printers
to use with Apple's OSX 10.2 or later
to print high quality images and smooth crisp
type to over 55 Epson colour ink jet printers
to automatically select correct colour profiles at print
time, when selecting the media type and resolution

**SPECIAL
PROMOTION
PRICE**
limited time only

CW Awesome Price from

£199 .00
EX VAT
£233.83 INC VAT

POWER RIP 2000

**Turn your Inkjet into a
Professional Proofer!**

Why make a color proof if the color's not accurate?
With PowerRIP 2000 Professional you can get the most
accurate proofs available on an inkjet printer. PowerRIP
2000 Professional assures that the colors you see are
the accurate colors that you expect. The drivers that
come with your printers distort the colors to make the
prints look pretty for the novice user but are not usable
in the professional market. This makes PowerRIP 2000
Professional the choice among professional Graphic
Artists, Designers, Printers and Lithographers.
Choose the version for you!
PowerRIP 2000 Professional comes in
various flavours. Single user, multi user
and large format printers are all catered
for. Just pick the one that's right for you.
New version - for Mac OSX 10.2
supports all Epson inkjets. Call for price.

Main Features V6 Pro

- ▲ Professional quality color proofs on your inkjet!
- ▲ USB, Serial or Ethernet support
- ▲ Same basic quality as PowerRIP 2000 Professional
- ▲ DCS (Desktop Color Separation) 1 & 2 support
- ▲ Spot colors, transparency & overprinting
- ▲ Includes PowerRIP PDF generator. Make 1.3 PDF's
direct from PowerRIP
- ▲ Quick Cancelling of Jobs
- ▲ Level 3 color rendering dictionaries
- ▲ Multiple print queues on a Mac OS
- ▲ Color Calibration Controls
- ▲ ColorSync Support

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NEW
LOW
PRICE**



**QUICK & EASY
POWER RIP X OS 10
£119** EX VAT

Buy Power RIP 2000 and get
Power RIP X OS 10 for £119 ex Vat,
when purchased at the same time

Print Queue Management

Allows you to reprint jobs directly from PowerRIP 2000.
Change priorities, move the print jobs up or down in the
queue, pause or cancel.

Pre-Profiled and Easy to use Calibration

Will automatically use
appropriate color settings
for accurate color
reproduction. Apply custom
calibration to a specific print
queue, so all jobs printed to
that queue receive the same
calibration.



Epson Printers Page 21

POWER RIP 2000 VERSIONS

V.6.0 PRO Epson 2100/2200/7600 and more	£189	£222.83
V.6.0 LF PRO Epson (7xxx, 9xxx)	£399	£468.33
V.6.0 Canon S9000/S6300/19100/16500/16100	£189	£222.83
V.5.6 Hewlett Packard 900/1200	£189	£222.83

CW Awesome Price from

£189 .00
EX VAT
£222.08 INC VAT

High value RAID solution



MEDIABANK HS-R

**Swap Raid, a new concept in
FireWire storage**

Using aluminium, constructions and two easily removable hard
trays and hardware support for Raid 1 (mirroring), HS-R is the
secure FireWire storage solution available today.

Features

Hardware based Raid 1 (mirroring) support - No software required!
Fully automatic and
independent drive backup and
data mirroring
Advanced 911 chipset for highest
transfer rates
Choose empty enclosure to fit
your own drives or dual 80GB
or 120GB solutions

HS-R (Enclosure Only)

£299 .00
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£351.33 INC VAT

ABANK HS-R Dual 80GB

Enclosure fitted with 2 x 80GB Hard Drives

£448 £526.83

ABANK HS-R Dual 120GB

Enclosure fitted with 2 x 120GB Hard Drives

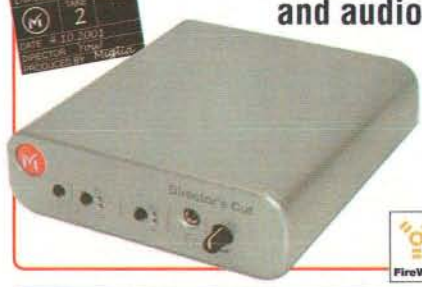
£478 £561.33

ABANK HS-R Dual 250GB

Enclosure fitted with 2 x 250GB Hard Drives

£795 £934.12

Capture video and audio



DIRECTOR'S CUT TAKE 2

**Transform your computer into a
video editing studio**

Capture video and audio from any analogue source, like a camcorder
or a VCR, edit the footage on your computer and output it back to a
VCR or burn it onto a DVD-R. Director's Cut converts any analogue
video and sound material into DV format that can be captured by any
computer equipped with a FireWire/IEEE 1394/Link interface.

Main Features

- ▲ Allows you to capture video from any analogue device
like a VCR, DVD player or Camcorder
- ▲ Connect Video/TV monitor while editing
- ▲ Incredible image and sound quality
- ▲ Recognised by your system as a DV camera - no
additional drivers required
- ▲ Exports video footage to any analogue recording device
- ▲ Connects to your Mac or PC via IEEE 1394/FireWire
- ▲ Bus powered - does not require
an external power supply
- ▲ MacOS, OS X, Windows 98 to XP
- ▲ Dual Output functionality. Export to
two VCRs at the same time or
use a preview monitor
- ▲ Optional Power Supply available

CW Awesome Price

£219 .00
EX VAT
£257.33 INC VAT

Miglia TECHNOLOGY LTD

**LOOK HERE!
NEW
PRODUCT**

TV & radio on your Mac



ALCHEMYTV

TV tuning & video capture for your Mac

Featuring a high performance Philips tuner and full QuickTime support,
AlchemyTV lets you watch TV in full screen mode and listen to FM radio on your
PowerMac. Your favourite TV program can even be recorded to your hard drive in
the format of your choice.

Main Features

- ▲ Built-in TV tuner with auto channel search
- ▲ Full screen viewing and capture mode
- ▲ Captures to Motion-JPEG MPEG-4!
- ▲ Features composite and S-VHS inputs
- ▲ Built-in FM radio tuner

AlchemyTV-PVR

As TV version plus software that allows for setting recording date/time

£93 £109.33

AlchemyTV-PVR & Keyspan DMR Bundle

As PVR version but with Keyspan Infra Red Media Remote

£119 £139.33

AlchemyTV from only

£69 .00
EX VAT
£81.08 INC VAT

FireWire PCI 800MB Card

The versatile FireWire
solution - FireWire
PCI 800MB card with
2 x 800 ports and
1 x 400 port

CW Awesome Price

£65 £76.38
EX VAT INC VAT

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For Macs, London areas. Call for details.

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See page 31 for details & conditions.

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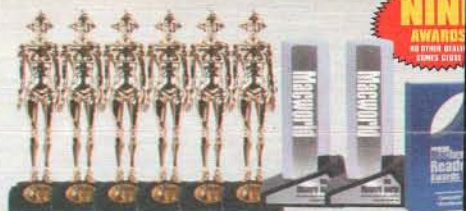
This is...

"My Pa likes the prices and my Ma does too, - I'm sure CW has something for you."

computer warehouse



Apple Centre



Only CW has been awarded no less than **NINE** Macintosh Magazine Reader Awards in 6 Years

EDUCATION DEPT

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APPLE DIRECT ACCOUNT

MICROTEK

- ✓ Microtek provide a 2 year 'new for old' warranty!
- ✓ All flatbed scanners are OS X compliant*

ArtixScan 1800f

4.8D optical density

Glass free scanning

The ArtixScan 1800f is the only scanner in its class that delivers a maximum Optical Density of 4.8D. A premium quality 48-bit Kodak CCD (the best CCD in the world) produces accurate colours plus extremely high levels of highlight and shadow detail.

Main Features

- ▲ 1800x3200dpi optical res.
- ▲ Reflective and transparency IT-8 targets
- ▲ FireWire & USB 2, includes cables and firewire card. Optical density 4.8 (D-max), 48-bit.
- ▲ SilverFast Ai Pro 6 with dust & scratch removal E.D.I.T. Glass-free transparency scanning with 35mm strip, slide, 6cm and 5x4" holders.



LOOK HERE!
NEW LOW PRICE

"The ArtixScan 1800f gives amazing results - flawless in every way I could test for" MacWorld June 2003

CW Awesome Price

£1195 .00 EX VAT
£1404.12 INC VAT

SCANMAKER 9800XL

Awesome quality with pro results

An A3 scanner with greatly improved specifications and connectivity. The large 17" x 12" scanning area combines with a very high 1600 x 3200dpi resolution to cover almost all reflective scanning requirements.

Main Features

- ▲ 1600 x 3200 dpi optical resolution
- ▲ 48-bit CCD sensor plus multi-sampling
- ▲ FireWire, USB and SCSI-II connections
- ▲ Optical density 3.7 (D-max)
- ▲ SilverFast Ai Pro 6 with scratch & dust removal
- ▲ ScanMaker 9800xl including 16x12" transparency adapter & IT-8 target £1299 ex Vat (£1536.33 inc Vat)

MacUser
iADS
BEST

"It was virtually impossible to produce a scan that we were unhappy with..." MacUser Labs Best June 2002

LOOK HERE!
NEW PRODUCT

CW Awesome Price

£1145 .00 EX VAT
£1350.08 INC VAT

SCANMAKER 5900

Versatility, Quality and Value

The FilmView lightidit allows positive and negative film to be visually previewed. Capture high levels of detail with the advanced CCD system. USB 1.1 compliant - for a speed boost attach to a USB 2 interface.

Main Features

- ▲ 2400 x 4800 dpi Optical Resolution
- ▲ High-Speed USB 2 Port
- ▲ True 48-bit Colour Resolution
- ▲ 5 x 4" TMA with FilmView
- ▲ Easy to Use for Macintosh & Windows
- ▲ Slim Design



CW Awesome Price

£127 .00 EX VAT
£149.23 INC VAT

SCANMAKER 8700

Ultra-fast, quality scanning

Why scan transparencies through glass? Microtek's patented E.D.I.T. (Emulsion Direct Imaging Technology) allows film to be scanned without an interfering pane of glass resulting in distortion free images, free of "Newton Rings".

Main Features

- ▲ 1200 x 2400 dpi optical res
- ▲ Includes Silverfast 6
- ▲ FireWire and USB, includes cables and FireWire card
- ▲ Includes 5 glass-free templates for 35mm slides, 35mm strip, medium format and 5x4" film. A universal holder is also included for sizes up to 10x8"
- ▲ Optical density 3.4 (D-max)
- ▲ Adobe Photoshop Elements



CW Awesome Price

£549 .00 EX VAT
£645.08 INC VAT

SCANMAKER 6800

Restore your photos while you scan

The ScanMaker 6800 with integrated Digital ICE™ technology for Photo Prints is the world's first flatbed scanner designed to restore photos as it scans.

- ▲ 2400x4800dpi Optical Resolution
- ▲ FireWire and USB 2 includes cables and firewire card
- ▲ Built-in 5x4" transparency adaptor
- ▲ 5 Smart Touch Buttons



CW Awesome Price

£297 .00 EX VAT
£348.96 INC VAT

SCANMAKER 4900

Ultra slim design, perfectly matches the Quicksilver!

A high-speed plug-and-play USB interface makes installation quick & easy. Scanning, image editing, special effects, OCR, web page design... it's all there on the CD.

- ▲ A4 scanner with 7 Smart Touch Buttons
- ▲ True 48 Bit color & 2400 x 4800 Optical Res
- ▲ Optional Transparency Adaptor
- ▲ 4900 Plus £17 (ex VAT) inc. 35mm scanning adaptor
- ▲ 4900 Photo £35 (ex VAT) inc. 7x8" scanning adaptor



CW Awesome Price

£85 .00 EX VAT
£99.88 INC VAT

OMNIPAGE PRO X

Eliminate retyping now!

OmniPage Pro X's superior accuracy eliminates retyping, saving time and increasing productivity. New PDF functionality lets you convert PDF files to your favorite program or convert paper documents into PDF files. All this, plus improved formatting, table recognition and a host of other innovative capabilities designed to do one thing - make you more productive.

Main Features

- ▲ Superior Accuracy - up to 40% better than previous versions
- ▲ PDF Output - convert paper documents into searchable PDF files
- ▲ Superior Formatting - maintains the formatting of all your pages
- ▲ PDF Conversion - Convert PDF files into your favorite program files in one easy step - retains all page formatting!
- ▲ Table recognition

X
Mac OS X

OMNIPAGE PRO X VERSIONS

OmniPage X Mac Standard	£299.00	£351.00
OmniPage X Mac Education	£199.00	£233.00
OmniPage X Mac Upgrade	£79.00	£92.00

LOOK HERE!
NEW PRODUCT



Upgrade from only

£79
£92.00 INC VAT

IBM VIAVOICE

You talk, it types!

The award-winning ViaVoice for Mac OS X Edition is a native Mac OS X application that combines powerful new features with the sleek new "Aqua" look-and-feel. A vocabulary twice the size of previous ViaVoice for Mac products can lead to improved dictation accuracy, and DSR technology provides direct dictation into many text-based Mac applications.

Main Features

- ▲ Aqua user interface/look and feel, including VoiceCenter, Command Center, SpeakPad, and Preferences
- ▲ Faster enrolment allows the user to create a personal Voice Model
- ▲ Enlarged vocabulary of 150,000 UK English Words
- ▲ Comes with a noise-cancelling headset microphone
- ▲ IBM ViaVoice Outloud Text-to-Speech (TTS) Technology
- ▲ G4 Processor Optimisation

X
Mac OS X

VIAVOICE MAC VERSIONS

ViaVoice Mac Standard	£79.00	£92.00
ViaVoice Mac Upgrade	£42.00	£49.00

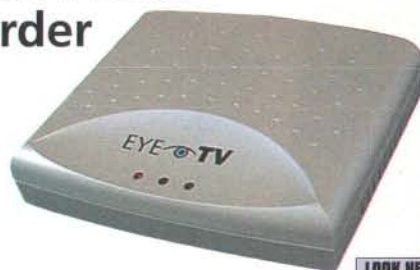
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NEW PRODUCT



Upgrade from only

£42
£49.00 INC VAT

Digital Video Recorder



Introducing EyeTV - the digital video recorder designed for Macintosh!

LOOK HERE!
NEW PRODUCT

EL.GATO EYE-TV

Watch TV, record TV, pause live TV - all on your Mac!

EyeTV can do everything a VCR does without the hassle of video tapes. EyeTV needs only 650MB of disk space to store an hour of video on your hard disk. If you want a permanent copy, use your CD recorder to burn a video CD that is playable in your home DVD player (Toast 5 Titanium is required to burn Video CDs). EyeTV gives you the freedom to attend to interruptions without missing your favorite shows. You can pause whatever you're watching, whether it's a live television broadcast or a recorded show, and then resume watching whenever you're ready.

Eye TV Digital Video Recorder frees you from TV schedules. Pause live television. Skip commercials. Record your favorite shows permanently using your CD burner. EyeTV will change the way you watch television.



Main Features

- ▲ Watch TV on Your Mac
- ▲ Record Without Tapes
- ▲ Pause Live Television
- ▲ Add an optional External Remote Control

CW Awesome Price

£149
£175.08 INC VAT

Note: Prices quoted are for cheque, cash, debit cards or buy now pay in 6 months orders only. Written quotations available upon request. Consumers Statutory rights are not affected. Prices exclude carriage at TNT published rates. E&OE. All products and offers subject to Computer Warehouse Limited Terms of Trade available upon request. All trademarks respected. Photographs shown for illustration purposes only. Bundled software supplied on CD or pre-installed. E&OE.

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Brand new showroom open!

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Syon Lane BR station.
The showroom is open
Monday to Friday 9am -
5.30pm & Saturdays from
9am to 5pm.



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LONDON
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INTUOS 2

Maximize your creativity
Intuos2: The perfect
way to work with
Photoshop.

Live from your creative ideas,
Intuos2 is the graphic tablet
that does much more than
mouse. With Photoshop,
Painter Classic and other
software, Intuos2 gives you
access to numerous tools
effects. Like pressure-
sensitive pens, erasers and more.
Intuos2 gives you
fine, fingertip control of
size, dynamics and
tension. The result?
More, more precise work.
Intuos2 is the perfect way
to express your creativity.

Features
Five tablet sizes ranging from A6 to A3
All tablets ship with free software: Painter
Classic and Nik PenPalette Photoshop filters
different Intuos2 tools available including digital airbrush
All tablets have 1024 levels of pressure and transparent overlays
New USB edition also available: Stylish platinum design in A5
and regular A4 only - Call now for CW prices

WACOM INTUOS 2		
5" x 5" Intuos 2 Tablet	£129.00	£151.58
8" x 8" Intuos 2 Tablet	£229.00	£269.08
12" x 12" Intuos 2 Tablet	£319.00	£374.08
12" x 12" Intuos 2 Tablet	£359.00	£421.08
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WACOM

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PLATINUM EDITION ONLY
Includes a Voucher offer to upgrade your
Painter Classic to Painter 8 (full version)
for a special price and you will also
receive Corel Knock Out for FREE

intuos2

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JBL CREATURE

your sights on better
in sound

metallic Silver JBL Creature is a compact, high-
performance 3 piece speaker system which includes
desktop speakers and a subwoofer. Both speakers
and subwoofer are magnetically shielded to provide
protection against image distortion on a
computer monitor.

JBL Creature comes with unique 'capacitance'
volume control buttons on the right satellite.
Satellites also have down firing green LEDs for a
desktop look in minimum lighting environments.

Features
3 watt-per-channel powered satellites
3 watt-powered subwoofer for bass sound
Built-in user interface for ease of operation
Elegant, snappy
Design
Convenient touch
button controls
Now available in
white

CW Awesome Price
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EX VAT
£104.58 INC VAT

harman/kardon®



3-piece
speaker
system

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**NEW
PRODUCT**

SOUNDSTICKS

Beauty is in the ear of the
beholder

SoundSticks is comprised of two powerful 10 watt
satellite speakers backed by Harman/Kardon's award
winning 20 watt subwoofer, which produces stunning
bass response down to 44Hz. Housed in a transparent
enclosure, the satellite towers contain 4 Odyssey
transducers that deliver high frequencies beyond
20kHz.
SoundSticks was created for USB-equipped Apple
computers, such as iBook, iMac, PowerBook, Power
Macintosh G3 and Power Mac G4.

Main Features

- ▲ Digital USB interface allows you to create streaming digital audio
- ▲ True plug and play for simple, fast set-up
- ▲ 10 watt per channel powered satellites
- ▲ Created exclusively for USB Apple computers
- ▲ Frequency range: 44Hz-20kHz
- ▲ Subwoofer dimensions: 232mm diam. x 258mm
- ▲ Satellite dimensions: 50.8mm diam. x 254mm
- ▲ USB interface

CW Awesome Price
£109.00
EX VAT
£128.08 INC VAT

DYMO

The fastest and easiest way to print
labels from your Mac

These great little printers makes it easy to print labels from your
Mac, eliminating the hassle of printing labels with general-purpose
printers. All come with software that makes it easy to quickly design
labels with fonts, graphics and barcodes - even digital photos.



LabelWriter 310
Affordable label printer, now
improved with twice the
print quality. Prints labels
up to 40 mm for dozens of
applications such as file
folders, envelopes, bar
codes and more. 8 seconds
per label. USB Win or Mac.

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£99.00
EX VAT
£116.33 INC VAT



LabelWriter 320
Versatile label printer. Prints
labels up to 59 mm wide for
envelopes, packages, file
folders, disks, videotapes,
name badges, Internet
postage and more. Just 4
seconds per label. USB for
Win or Mac.

CW Awesome Price
£135.00
EX VAT
£158.65 INC VAT



LabelWriter 330 Turbo
Fastest label printer.
Handles all the same labels
as the LabelWriter 320, with
the same outstanding print
quality, and prints twice as
fast! Just 2 seconds per
label. Connects to USB or
serial port. Win or Mac.

CW Awesome Price
£160.00
EX VAT
£188.00 INC VAT



ESSELTE

Main Features

- ▲ Direct Thermal Technology eliminates costly tone, ink or ribbon supplies
- ▲ 300 dpi resolution
- ▲ Create address databases
- ▲ Over 40 built-in label templates
- ▲ Labels printed per minute:
330 Turbo - 32 labels
320 - 16 labels
310 - 8 labels
- ▲ Filemaker compatible

Selected Labels

Standard address labels - white paper	28mm x 89mm	130 per roll	Box of 2 rolls	£7.50
Large address label - white paper	36mm x 89mm	260 per roll	Box of 2 rolls	£12.50
Large address label - clear plastic	36mm x 89mm	260 per roll	Box of 1 roll	£14.50
Shipping/name badge - white paper	54mm x 101mm	220 per roll	Box of 1 roll	£11.50
Diskette label - white paper	54mm x 70mm	320 per roll	Box of 1 roll	£12.50
LabelWriter CD labels	57 mm diameter	160 per roll	Box of 1 roll	£16.99
Starter Kit: Contains a spare label carrying spool for the printer and a selection of label sizes for Suspension files, Lever Arch Files, Shipping/Name Badges and Standard & Large Address Labels				£60.00



NETGEAR

DG834

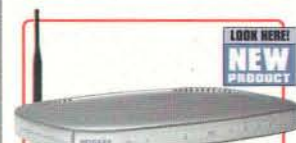
ADSL Firewall Router

Four products in one, this multitasking firewall router
combines an ADSL modem, router, 4-port 10/100 LAN
switch, & SPI True Firewall to deliver broadband access
that's continuously available for sharing with all your
networked devices. Simple to use, it plugs directly into
your ADSL line for instant connectivity to network
resources and the Internet, and an integrated switch lets
you directly connect up to 4 computers or any
combination of 4 computers, access points or printers.

Main Features

- ▲ Combines ADSL modem, router, 10/100 LAN switch, and firewall
- ▲ True Firewall with Stateful Packet Inspection (SPI) & Intrusion Control, DoS
- ▲ Virtual Private Network (VPN) pass-through
- ▲ Smart Wizard Install Assistant detects/connects to your ISP
- ▲ Shares a single IP address with up to 253 users

CW Awesome Price
£85.00
EX VAT
£99.88 INC VAT



DG834G

Wireless ADSL Firewall Adapter

Wireless or wired instant broadband access with internet
sharing. 5 products in one, it combines an ADSL modem,
router, 10/100 LAN switch, 802.11g access point, and SPI
True Firewall.

Main Features

- ▲ Up to 5 times faster than 802.11b
- ▲ Smart Wizard detects/connects to your ISP
- ▲ Works with both 802.11g & 802.11b
- ▲ True Firewall with SPI & Intrusion Control, DoS, VPN pass-through

CW Awesome Price
£119.00
EX VAT
£139.83 INC VAT

MORE NETGEAR BROADBAND ADSL / ETHERNET SOLUTIONS

RP614 Broadband router. Ready for up to 253 users. Integrated 4-port 10/100Mbps switch	£49.00	£57.08
GS104 4 Port compact gigabit Ethernet switch. Auto-switching 10/100/1000Mbps Ethernet connection	£119.00	£139.83

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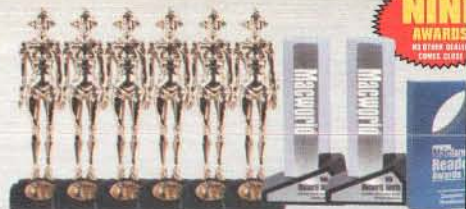
This is...

"I've seen the truth and it's called Bluetooth"
"It works like a dream, like swimming downstream."

computer warehouse



Apple Centre



Only CW has been awarded no less than **NINE** Macintosh Magazine Reader Awards in 6 Years

EDUCATION DEPT **CORPORATE SALES** **APPLE DIRECT ACCOUNT**



Excellent value peripherals for your Macintosh

USB ADSL MODEM

High-speed internet access and data transfer

Swann's Velocity USB ADSL modem allows you to experience broadband technology, providing super high-speed Internet access and/or remote connection to a home or office LAN. Connect at up to 50 times faster than analog modems & start benefiting from consistent Internet connection.

CW Awesome Price
£49
£58.95 INC VAT

OPTI-FREESTYLE MOUSE

Super mini wireless optical mouse

This 3-button, wireless, easy-to-use scroll mouse has an optical sensor (no mouse ball), giving enhanced precision and smooth movement. Light, compact and ideal for children and travellers. 300 optical signals per second

CW Awesome Price
£29
£34.95 INC VAT

OPTI-GLO MOUSE

Optical sensor for smooth, accurate navigation

Scroll and zoom functions for easy Internet and document navigation. Features 3 button operation, 1500 optical signals per second, 1 million cycle life micro-switch and an attractive illuminated scroll wheel and optical sensor

CW Awesome Price
£16
£19.95 INC VAT

SWANN PCI, FIREWIRE AND USB CARDS

2-Port PCI Card 2 USB downstream ports, 12Mbps transfer rate

£12.72 £14.95

3-Port PCI Card 2 FireWire ports, 400Mbps maximum transfer rate

£37.95 £44.95

FireWire PCMCIA Card 2 port PHY layer connector & interface, Hot-swap function

£49.95 £58.95

New USB 2.0 Products

USB 2.0 connects at up to 480Mbps- 40 times faster than USB 1.1 and 20% faster than FireWire!

OptiBright Mouse

Swann's Opti-Bright operates using optical technology for smooth and accurate navigation. When active, the base and scroll wheel illuminates, casting a brilliant shimmer of light to brighten up your desk. Compatible with both PC and Mac, this high-performing and contemporary mouse is ideal for children, notebook users and travellers.

CW Awesome Price
£16
£19.95 INC VAT

USB 2.0 PCMCIA Cardbus

The lightweight & portable USB 2.0 PCMCIA Cardbus delivers a high speed connection for Mac compatible notebooks with a PCMCIA port. Connect the latest USB 2.0 devices and experience the convenience of super-fast data transfer!

- ▲ Connect with speed - transfer rates of up to 480Mbps
- ▲ Adds two USB 2.0 high-speed ports to your notebook
- ▲ Plug & Play installation & Hot Swap functionality

CW Awesome Price
£42
£49.95 INC VAT



MacSurfer Serial 56k

Offers ultra-speedy web surfing and email. Latest Dual-chip technology (Autosyncs between V90 & K1flex). FREE WebWorks 2000 CD Internet Toolkit. 5 Year Warranty

CW Awesome Price
£68
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MacSurfer USB 56k

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Cool new Belkin accessories for your

Apple iPod

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- ▲ Pre-configured for dozens of applications
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- ▲ Easily add/edit your own custom settings

Hardware:

- ▲ New alloy, super smooth jog knob for frame by frame navigation and control
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See page 9

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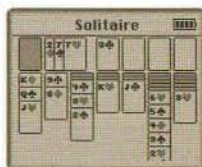
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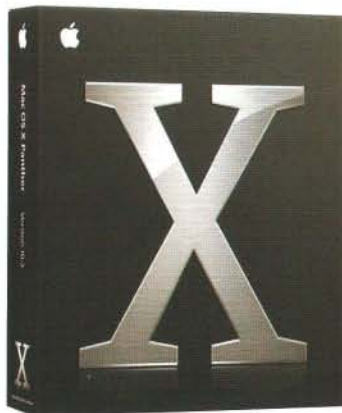


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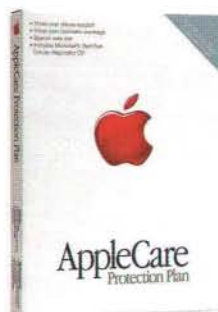
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Apple Power Mac G5



The Power Mac G5 may look sleek and unassuming but beneath her beautiful exterior there lies some serious processing power. The Power Mac G5 is the world's fastest personal computer and the first with a 64-bit processor, it breaks the 4 gigabyte barrier and can use up to 8 gigabytes of main memory. The G5 processor is available at speeds of up to dual 2GHz with a new ultra-high bandwidth system architecture featuring AGP 8X and PCI-X. If you are sick of waiting for programmes to start or applications to run, then this is the machine for you!

Three muscular configurations

- 1.6GHz, 1.8GHz and a dual 2GHz model
- SuperDrive (DVD-R/CD-RW) as standard equipment across the line
- Two FireWire 400 ports
- Three PCI expansion slots
- ADC connector
- DVI connector
- Analogue audio in, analogue audio out
- Optical SPDIF in, optical SPDIF out
- Front headphone and speaker jack
- Built-in Gigabit Ethernet
- AirPort Extreme-ready (optional)
- Bluetooth™ capable (optional)

G5s From Only
£1309⁹⁹
(£1539.24)
E472873

£66.99 (E78.71) E466077
Every Mac needs
.Mac Internet
Services Suite!



Apple PowerMac G4 1.25GHz 256MB/80GB/COMBO/OS9&X <i>Whilst stocks last!</i>	E472872	£844.99	(£992.86)
Apple PowerMac G5 1.6GHz 256MB/80GB/SUPER/OS X	E472873	£1309.99	(£1539.24)
Apple PowerMac G5 1.8GHz 512MB/160GB/SUPER/OS X	E472874	£1559.99	(£1832.99)
Apple PowerMac G5 DUAL 2GHz/512MB/160/SUPER/OS X	E472875	£1945.99	(£2286.54)

Unrivalled displays Breakthrough prices

Apple's brilliant flat-panel displays offer certified colour at unbelievable prices. All displays in the Apple family offer crisp pixels, the best viewing angle technology and a broad colour gamut so you can judge your work accurately. And they won't break the bank - or your back, for that matter.

Available in 17-, 20-inch and 23-inch all-digital, active-matrix LCDs with resolutions up to 1920-by-1200 pixels.



From Only
£442⁹⁹
(£520.51)
E455757

Apple LCD Studio Display 17-inch	E455757	£442.99	(£520.51)
Apple LCD Cinema Display 20-inch	E455759	£879.99	(£1033.99)
Apple LCD HD Cinema Display 23-inch	E414490	£1319.99	(£1560.99)

24x7x365 software
telephone support
FROM AS LITTLE AS
£29.99 (£35.24)



MS Office V.x for Mac OS X 24x7x365 1 Year	E474207	£29.99	(£35.24)
Quark Xpress 6 for Mac OS X 1 Year	E473509	£99.99	(£117.49)
Adobe InDesign 2.0 Mac 24x7x365 1 Year	E474205	£99.99	(£117.49)
Apple Mac OS 24x7x365 1 Year	E488161	£29.99	(£35.24)



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Introducing Xserve & Xserve RAID



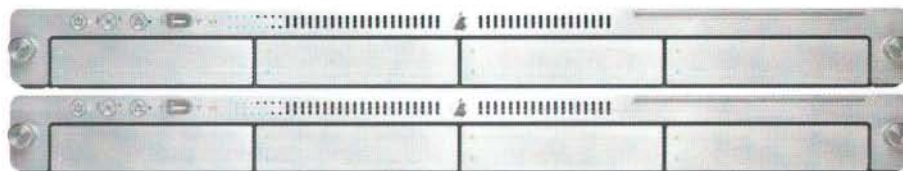
Nominated for the D&AD 2003 award for
Product Design: Products for Work

Industry-leading 1U performance UNIX-based solutions

Configure your own server solution
Call for details

Add elegantly-designed Apple servers or storage to any organisation. Apple hardware and software are designed to work seamlessly together - and with the rest of your IT deployment, whether Windows, Unix, Macintosh, Linux or any combination thereof.

Xserve

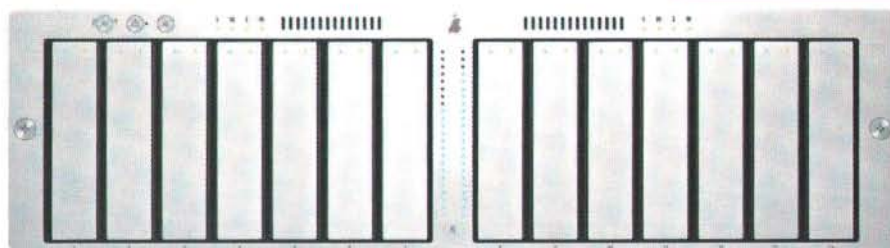


While Xserve's size is standard, its performance is anything but. The 1U Xserve features up to dual 1.33GHz PowerPC G4 processors for an amazing 19 gigaflops of computational power. In fact, Xserve compares favourably not just with its 1U competitors, but even with many 2U servers. Xserve also offers high-bandwidth I/O and huge internal storage capacity - 720GB of data per unit - for everything from high-definition video to large scientific data sets.

		LEASE IT	
Apple Xserve G4 1.33GHz 256MB SDRAM/60GB ATA Drive Module/CD-ROM	E456927	£75.73 (£68.88)	£1994.99 (£2344.11)
Apple Xserve Dual G4 1.33GHz 512MB SDRAM/60GB ATA Drive Module/CD-ROM	E456930	£99.14 (£116.48)	£2674.99 (£3143.11)
Apple Xserve NODE G4 DUAL 1.33GHz 256MB/60GB	E461790	£72.12 (£84.75)	£1899.99 (£2232.49)

Xserve RAID

Ask about rack storage



Xserve RAID delivers a high-performance, high-availability, cost-effective storage solution to manage and protect those digital assets. Xserve RAID has a massive storage capacity, with up to 2.52TB of storage in each 3U enclosure. And Xserve RAID's performance is equally impressive. It features an advanced architecture with 14 independent ATA/100 channels, dual independent RAID controllers for simultaneous storage processing and dual 2Gb Fibre Channel interfaces for reliable data throughput up to 400MB/s.

		LEASE IT	
Apple Xserve RAID 4x180GB/2x128MB Cache	E456934	£157.50 (£185.07)	£4249.99 (£4983.74)
Apple Xserve RAID 7x180GB/2x128MB Cache	E456936	£195.31 (£229.48)	£5269.99 (£6192.24)
Apple Xserve RAID 14x180GB/2x128MB Cache	E456938	£276.93 (£325.39)	£7649.99 (£8988.74)
Apple Xserve Apple Drive Module 180GB	E456940	-	£359.99 (£422.99)
Apple Cache Battery Back-Up Modules	E456947	-	£239.99 (£281.99)
Apple Fibre Channel PCI Card	E456950	-	£359.99 (£422.99)

Mac OS X Server

Mac OS X Server features a comprehensive suite of standards-based workgroup and Internet services built right in. The open standards ensure that they'll work with systems already in place, enabling Mac OS X Server to provide native support for Mac, Windows and other UNIX clients right out of the box. And because it's open, Mac OS X Server won't lock you into using proprietary services from a single company. Third-party, standards-based tools and business apps will work seamlessly on the operating system.

Mac OS X Server v10.3 10 Clients
E487471 £339.99 (£393.49) inc. vat

Mac OS X Server v10.3 Unlimited Clients
E487472 £679.99 (£798.99) inc. vat

Mac OS X Server
licensing available



Apple Premium Service and Support Plan

When your operation hinges on server reliability, you can't afford downtime. For rapid response to your technical issues, Apple offers the AppleCare Premium Service and Support Plan for Xserve and Xserve RAID systems. Apple technical support experts are available 24 hours a day to help you determine if it's a hardware failure or a Mac OS X Server configuration issue. In either case, they'll work to get your system up-and-running quickly. And because Apple hardware and software are uniquely integrated, there's only one AppleCare number to call.

Apple Premium Service & Support Plan - Xserve RAID
E456956 £644.99 (£757.86) inc. vat

Apple Premium Service & Support Plan - Xserve
E458822 £589.99 (£693.24) inc. vat



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Software for Your Digital Apple

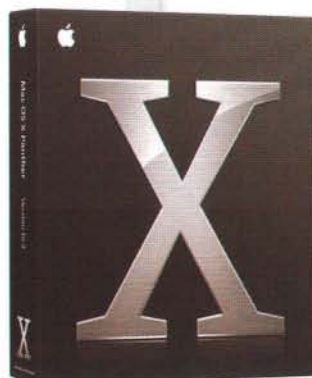
Mac OS X v10.3 Panther

The evolution of the species

Mac OS X has evolved. The fourth major release in just three years. Panther is a breakthrough in innovation, ease-of-use and reliability that won't be seen in other operating systems for years, if ever. If you're one of the millions of Mac owners, you'll love the powerful refinements to your system. Or as a user of a Windows- or UNIX-based system, you'll find mouth-watering incentives to switch to a Mac as your main computer.

Top New Panther features include:

- **Finder** Find everything you need just a click away
- **Exposé** Quickly tile open windows and reveal files on your desktop
- **iChat AV** Talk face-to-face over the Internet with top-notch video
- **FileVault** Secure your documents with AES-128 encryption
- **Fast User Switching** Change users without logging out of your applications
- **Mail** Follow the thread of any discussion and block junk mail
- **iDisk** Access your iDisk when you're not connected
- **Preview** Scroll through and search PDFs faster than before
- **Font Book** Find, organise and manage all the fonts on your Mac
- **Based on UNIX** Industrial-strength stability, with X11 and FreeBSD 5
- **Works with Windows** Access your Exchange email and sync your address book



£79⁹⁹
(£93.99)

Ask for item#
E486783

Final Cut Pro 4

Final Cut Pro 4 is a scalable digital non-linear editing system built on a resolution-independent architecture. From the innovative OfflineRT and DV, up to uncompressed 10-bit 60i or HD, Final Cut Pro 4 is perfect for editing and finishing a wide variety of programmes at virtually any resolution or frame rate.

Includes LiveType, Soundtrack and Cinema Tools for professional editing!

£679⁹⁹
(£798.99)

Ask for item#
E464208



Final Cut Express

Create professional-quality video with Final Cut Express. Whether you're a digital video enthusiast, a small business video developer, or an event videographer, Apple's new feature-rich DV editing software is designed for you. It's optimised for the DV format and comes with all the high-quality compositing, titling and effects capabilities you need for professional-level video. Featuring the same interface as the Emmy Award-winning Final Cut Pro, Final Cut Express is a robust editing solution for digital video enthusiasts. Simply connect your FireWire-equipped DV camcorder to your Mac and capture video directly to the Browser window. Then organise and manage your clips with ease.

£209⁹⁹
(£246.74)

Ask for item#
E450300

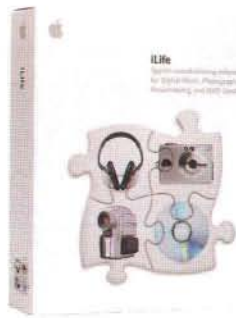


iLife

The iLife software application lets you do fun things by taking four best-of-breed multimedia applications - iTunes for managing music, iPhoto for digital photography, iMovie for editing digital videos and iDVD for creating your own DVDs - and integrate them so that they work together seamlessly.

£32⁹⁹
(£38.76)

Ask for item#
E450301

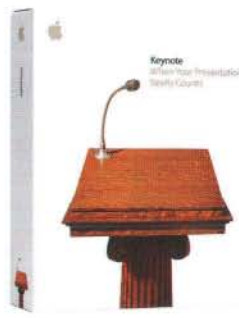


Keynote

Keynote is a new software application that makes it easy to create compelling presentations with professional-calibre themes, razor-sharp text and beautiful charts and tables — and do it all with unparalleled ease-of-use.

£66⁹⁹
(£78.71)

Ask for item#
E450303



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Life.....

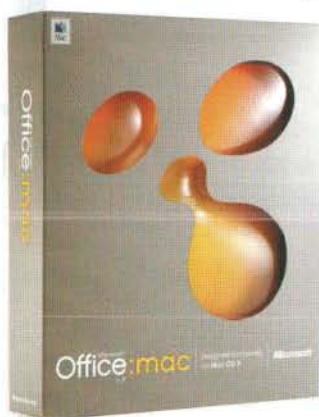
Microsoft Expertise with Mac Accessibility

Microsoft® Office v. X for Mac Standard Edition

Welcome to Microsoft® Office v. X - A fully native program designed specifically for Mac OS X that harnesses the power of Office, the simplicity of Macintosh, and the stability of UNIX. Office v. X has been completely redesigned with a fresh new Aqua interface. Office v. X supports all your favourite Mac OS X features, technologies, and is completely compatible with Office 2001 for Mac, Office 98 Macintosh Edition, Office for Microsoft Windows®, AppleWorks 6, and FileMaker Pro 5.5. It's everything you want!

Microsoft Office v.X includes the following components:

- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint
- Microsoft Entourage



£289⁹⁹

(£340.74)

Ask for item#
E366176



Microsoft Office for Mac Professional Edition

- Professional tools
- Complete compatibility
- Mac Office Professional Edition includes all of the applications in the Standard Edition



NEW EDITION

PLUS Virtual PC 6.1 for Mac with Windows XP Pro

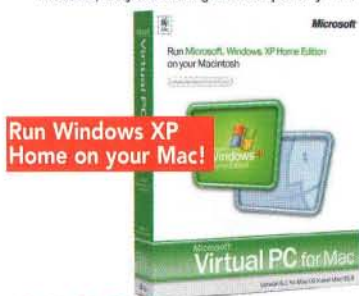
£336⁹⁹

(£395.96)

Ask for item#
E478482

Microsoft® Virtual PC for Mac version 6.1 with Windows XP Home

Virtual PC for Mac lets you run Windows Software on your Mac, giving you access to the wide array of software written for windows, easy file sharing and compatibility with Windows networks.



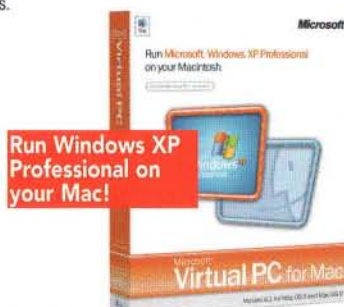
Run Windows XP Home on your Mac!

£133⁹⁹

(£157.44)

Ask for item#
E478489

Microsoft® Virtual PC 6.1 for Mac with Microsoft Windows XP Pro



Run Windows XP Professional on your Mac!

£149⁹⁹

(£176.24)

Ask for item#
E478774

Microsoft Office for Mac Student and Teacher Edition

Includes all of the Standard edition at an affordable price exclusive to students and teachers.



NEW EDITION

£90⁹⁹

(£106.91)

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E478485

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displays *by* sony

Over the years Sony has become synonymous with innovation and usability. This imaging expertise has been successfully applied to award winning stylish LCD displays with unique features and maximum space efficiency. The new stylish LCDs from Sony feature ergonomic stands, slim bezel, and are available in black and midnight grey.

SDM-X93

- 19" TFT LCD
- Resolution up to 1280x1024
- 500:1 contrast ratio/300cd/m2 brightness
- Viewing angle H/V - 170°/170°
- DVI-D input
- Built-in speakers
- NEW slim bezel design
- NEW ergonomic stand
- TCO '03



Only
£539⁹⁹
(£634.49)
E477661

19" TFT LCD SDM-X93 Grey	E477658	£539.99 (E634.49)
17" TFT LCD SDM-X73 Grey	E477654	£399.99 (E469.99)
17" TFT LCD SDM-X73 Black	E477657	£399.99 (E469.99)

SDM-X53

- 15" TFT LCD
- Resolution up to 1024x768
- 400:1 contrast ratio/300cd/m2 Brightness
- Viewing angle H/V - 130°/100°
- DVI-D input
- Built-in speakers
- TCO99 accredited



Only
£259⁹⁹
(£305.49)
E477651

15" TFT LCD SDM-X53 Black	E477652	£259.99 (E305.49)
---------------------------	---------	-------------------

SDM-S73

- 17" TFT LCD
- Resolution up to 1280x1024
- 400:1 contrast ratio/300cd/m2 brightness
- Viewing angle H/V - 140°/120°
- TCO99 accredited



Only
£339⁹⁹
(£399.49)
E477646

17" TFT LCD SDM-S73 Grey	E477643	£339.99 (E399.49)
19" TFT LCD SDM-S93 Black	E477649	£489.99 (E575.74)
19" TFT LCD SDM-S93 Grey	E477648	£489.99 (E575.74)

SDM-S53

- 15" TFT LCD
- Resolution up to 1024x768
- 300:1 contrast ratio/250cd/m2 brightness
- Viewing angle H/V - 120°/100°
- TCO99 accredited



Only
£219⁹⁹
(£258.49)
E477641

15" TFT LCD SDM-S53 Black	E477642	£219.99 (E258.49)
---------------------------	---------	-------------------

SDM-P232W

- 23" TFT LCD wide-screen
- Resolution up to 1920 x 1200
- Viewing angle H/V - 170°/170°
- 350:1 contrast ratio
- Dvi-D input
- TCO99 accredited



Only
£1699⁹⁹
(£1997.49)
E440733

18" TFT LCD SDM-P82	E439546	£599.99 (E704.99)
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Reasons to buy Sony

- 1 The flattest image** - A flat screen cuts distracting reflections and reduces eyestrain - but flat glass is no guarantee of a high quality image. That is why Sony's screens deliver an image that is perceived as being completely flat, creating the ultimate in image quality.
- 2 Comfortable viewing** - Adjustable height - Ergostand TM - to ensure the most comfortable reading position on all X Series LCDs.
- 3 Ease of use** - The OSD (On Screen Display) of every Sony monitor lets you make adjustments at the touch of a button.
- 4 Connectivity** - Both DVI-D & Analogue cables included in the standard package. Connect up to 3 PCs at the same time using DVI-D and 15 pins (x2) signal inputs.

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onsite
warranty



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email sales@macwarehouse.co.uk fax 08705 168 698



Formac Gallery LCDs

Introducing the all-new OX range of LCDs from Formac (Macworld London 2002: Best of Show). Providing ample space for creativity, the Gallery products are provided at an affordable price and possess the same award winning technical properties as the original Gallery 1740. "Truly excellent quality for text, graphic and video!" MacUser UK.

- TFT LCD flat-panel display
- Large 20.1" (2010) or 17.4" (1740) viewable area
- 1600x1200 (2010) or 1280x1024 (1740) pixel resolution
- 16.7m colours
- 160° viewing angle
- Ultra fast pixel response
- 0.255 or 0.27 pitch pixel
- 500:1 (2010) or 400:1 (1740) contrast ratio

Gallery 2010 image shown.



NEW! 1740 OX from £359.99(£422.99)

1740 OX VGA E422226

1740 OX ADC E451554

2010 ADC version Platinum	E437281	£837.99	(£984.64)
2010 DVI version Platinum	E441357	£837.99	(£984.64)
1900 ADC VERSION Platinum	E464277	£564.99	(£663.86)
1900 DVI VERSION Platinum	E464278	£564.99	(£663.86)
1740 ADC version Platinum	E407635	£379.99	(£446.49)
1740 VGA version White	E422226	£379.99	(£446.49)
Pantone Colour Calibrator	E420463	£169.99	(£199.74)
ADC to DVI Adapter Mac & PC	E437278	£59.99	(£70.49)
Gallery 1900 OX ADC White	E469329	£529.99	(£622.74)
Gallery 1900 OX DVI White	E469334	£529.99	(£622.74)

DVD SuperDrive



- DVD +/-R/RW, CDRW 4-in-1 solution
- Creates standards compliant DVD disks
- Includes DATA & DVD authoring software for Mac & PC

£193⁹⁹

(£227.94)

Ask for item#
E479642

ProNitron 22/880



- NF Diamondtron • 22" display (20" viewable area)
- Resolution up to 2048 x 1536 @ 86Hz
- 0.24mm dot pitch • USB hub 1 up 3 down
- Dual video inputs • 3 year warranty

£499⁹⁹

(£587.49)

Ask for item#
E463066

ProNitron 19/950



- NF Diamondtron
- 19" display (18" viewable area)
- Resolution up to: 1600 x 1200 @ 85 Hz
- 0.24mm dot pitch
- 3 year warranty

£229⁹⁹

(£270.24)

Ask for item#
E462114

Designer 52x24x52 CDRW FireWire



- 52x write, 24x rewrite, 52x read
- Built in burn-proof technology
- Includes Mac & PC software

£89⁹⁹

(£105.74)

Ask for item#
E443593

Studio TVR



- Digital/analogue, analogue/digital conversion
- Hardware MJPEG encoding/decoding
- Built in stereo and TV tuner
- MacOS X compatible
- Video & audio import
- NEW iMovie3 functionally

£279⁹⁹

(£328.99)

Ask for item#
E293860

Studio DV



- Digital/analogue, analogue/digital conversion
- Hardware MJPEG encoding/decoding
- Mac and PC compatible

£219⁹⁹

(£258.49)

Ask for item#
E435575



Available with these connectors

ADC
Connection

DVI
Optional Interface

VGA
Connection

USB
UNIVERSAL SERIAL BUS

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LaCie's line-up of Powerful Display & Storage Solutions

Professional
colour solutions & up to
500GB of personal
storage



£184⁹⁹

(£217.36)

Ask for item#
E471351

LaCie DVD-/RW FireWire including CaptyDVD Authoring Software

Create your own DVD movies on your Mac with the versatile CaptyDVD - exclusive to LaCie. Easily add a menu, buttons and slide shows.

- LaCie FireWire
- 4.7GB DVD-/RW 4x24x12x + CD-RW multi-drive
- Mac CaptyDVD authoring utility
- FireWire cable & 1st 4.7GB media. 'd2 model'



**LaCie Photon Monitors -
reduced price - best ever value!**

NB - Multidirectional stand optional

£739

(£868.33)

Ask for item#
E485475

DESCRIPTION	ORDER NO	PRICE
LaCie USB2 Mobile 40GB P2 HDD BY FA PORSCH	E481246	£114.99 (£135.11)
LaCie 40GB POKETORNE FIREWIRE & USB 2	E386505	£144.99 (£170.39)
LaCie 80GB POKETORNE FIREWIRE & USB 2	E489017	£229.99 (£270.24)
LaCie DVD BAK 40GB HDD - FW & USB2	E450471	£164.99 (£193.65)
LaCie 80GB 7200RPM EXT USB2 P2 HDD BY FA PORSCH	E481283	£88.99 (£104.56)
LaCie 120GB EXT HDD FIREWIRE 7200RPM	E428953	£113.99 (£133.94)
LaCie 160GB EXT HDD FIREWIRE 7200RPM	E482091	£149.99 (£176.24)
LaCie 200GB EXT HDD 7200RPM FIREWIRE	E481405	£169.99 (£198.74)
LaCie 250GB 7200RPM EXT FW P2 HDD BY FA PORSCH	E481275	£194.99 (£228.11)
LaCie 320GB EXT HDD 7200RPM FIREWIRE	E470953	£239.99 (£281.99)
LaCie 400GB EXT HDD 7200RPM FIREWIRE	E481533	£359.99 (£422.99)
LaCie 500GB EXT HDD 7200RPM FIREWIRE	E481537	£459.99 (£548.49)
LaCie 200GB HDD - EXT FW 800 & USB2 7200RPM	E482117	£194.99 (£228.11)
LaCie 400GB HDD - EXT FW 800 & USB2 7200RPM	E482123	£364.99 (£438.69)
LaCie 80GB ETHERNET DISK NAS SERVER	E482146	£329.99 (£397.74)
LaCie 160GB ETHERNET DISK NAS SERVER	E482147	£499.99 (£597.49)
LaCie 250GB ETHERNET DISK NAS SERVER	E487739	£699.99 (£837.49)
LaCie 500GB ETHERNET DISK NAS SERVER	E487867	£999.00 (£1173.89)
LaCie P 3.5" DVD+RW FIREWIRE PORTABLE BY FA PORSCH	E484939	£239.99 (£287.99)
LaCie FW CD-RW 50X/20X/10X PS DESIGN BY FA PORSCH	E481270	£59.99 (£70.49)
LaCie CD DUPLI - 12X (ONE 40X CD-RW & DVD-RDM)	E428905	£104.99 (£122.89)
LaCie CD DUPLI - 12X (ONE 40X CD-RW)	E489080	£219.99 (£258.49)
LaCie 40GB DVD RW 4X/24X/12X DVD-R FIREWIRE	E456084	£194.99 (£228.11)
LaCie AT17 3590GB USB2 FIREWIRE DRIVE	E438778	£599.00 (£710.63)
LaCie AT12 50130GB TAPE DRIVE USB2 & FIREWIRE	E484033	£939.00 (£1103.33)
LaCie ELECTRON 18" BLUE M MONITOR	E447940	£289.99 (£346.74)
LaCie ELECTRON 22" BLUE M MONITOR	E447642	£369.99 (£438.59)
LaCie PHOTON 18" TFT MONITOR	E482106	£409.99 (£481.74)
LaCie PHOTON 22" BLUE LCD TFT MONITOR	E485475	£739.00 (£886.33)
LaCie BLUE EYE VISION USB CALIBRATOR	E445437	£279.99 (£328.99)
LaCie BLUESCAN 4800/120/50 SCANNER	E445447	£599.00 (£698.59)
LaCie EXTERNAL USB FLIPPY DRIVE	E392700	£24.99 (£29.39)
LaCie 6.0" 1.5" USB MULTI-MEDIA CARD READER	E457392	£19.00 (£22.33)
LaCie NETWORK CD BOX 80GB	E377037	£549.00 (£654.00)



NEW! LaCie Portable Slim FireWire DVD+/RW

- Burn video and data DVD on the move
- Bundled with CaptyDVD authoring software
- Self powered through FireWire
- Stylish and shock absorbent
- Hot-pluggable and portable

£239⁹⁹

(£281.99)

Ask for item#
E484939



LaCie 20GB Data Bank HDD

- LaCie's most compact hard drive ever. Stylishly designed exclusively by FA Porsche.
- Stylish, ultra-compact, magnesium design
- True mobility (no need for external power supply)
- Also available in 10GB and 20GB
- FireWire and USB2
- Also available in 20GB (E450470)

£164⁹⁹

(£193.86)

Ask for item#
E450471



NEW! LaCie Ethernet Disk - Simple Affordable Online Storage 80GB to 500GB

Featuring advanced file-sharing technology the LaCie Ethernet Disk frees PC file servers by providing independent, stand-alone storage accessible to anyone in the network. Ideal for small and medium-sized business environments, it will store, backup and share files among as many as 25 users, and fits conveniently in a 19" rack.

£329⁹⁹

(£387.74)

Ask for item#
E462146



NEW! LaCie Portable Slim Hard Drives

- An ultra-portable hard drive, ideal for removable storage and backup, and suitable for DV video editing.
- Available as either FireWire or USB2.0 in 20GB, 40GB and 80GB
- Bus powered for truly mobile computing
- Hot-pluggable connection and instant device recognition

£94⁹⁹

(£111.61)

Ask for item#
E481262



NEW! LaCie P3 Desktop FireWire Hard Drives

- New FireWire desktop hard drives designed by the world-famous Porsche Design Agency GmbH
- Up to 250GB of storage
- Save photos, MP3s, videos
- Stackable to save desk space

£88⁹⁹

(£104.56)

Ask for item#
E481281



NEW! LaCie Photon 18" & 20.1" TFT LCD Pro Monitors

- Huge viewable area
- Brilliant colour for the graphics professional - can be calibrated with optional BlueEye vision
- Optional ergonomic multidirectional stand

£409⁹⁹

(£481.74)

Ask for item#
E462106

New! FireWire 800 and/or USB2.0 Hard Drives

From 40GB to 500GB

- Fast FireWire (IEEE 1394) 35MB/sec sustained transfer rates. New, twice the speed!
- 7200 rpm suitable for DV video editing
- Hot plug connection
- Cross platform compatibility
- Portable & stackable aluminium case

£104⁹⁹

(£123.36)



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Only...
£599⁹⁹
(£704.99) inc. vat.

NEC LCD 1880SX

- 18" SuperFine TFT LCD
- 170° viewing angle
- Resolution up to 1280x1024
- 350:1 contrast ratio
- 16.7million colours
- VESA compliant
- DVI connectors
- Rotating screen (landscape/Portrait)
- TC099

Ask for item# E404449

NEC Monitor 19" TFT LCD1980SX (Black) **E470551** **£689.00** (E809.58)
NEC Monitor 19" TFT LCD 1980SX **E470549** **£689.00** (E809.58)



Now only...
£129⁹⁹
(£152.74) inc. vat.

Mitsubishi Pro930S

- 19" (18" viewable) SuperBright Diamondtron™
- Maximum resolution 1920 x 1440
- 0.24mm grille pitch
- sRGB compatible
- NaViSet™ control software

Ask for item# E437273



3 year onsite warranty



NEC-Mitsubishi Electronics Display unveils its sophisticated line of NEC MultiSync LCD NX Series monitors, including competitively priced models in 15, 17 and 18-inches. NEC MultiSync LCD 60 Series models provide DVI-D and traditional VGA connectors. With dual system support, corporate and home users are able to toggle between two systems such as a Mac and PC.

Introducing NEC-Mitsubishi's new SuperBright Technology CRTs:

This is an intelligent advance new type of CRT which generates extreme clarity, perfect contrast and fine detail with extraordinary brightness. Your eyes remain fresh after hours of monitor use watching DVDs, internet usage, photography viewing, gaming, or simply working on text documents.



SONY

High quality, high style and high flexibility.



PFM-42V1E

The PFM-42V1E professional flat panel monitor incorporates a WVGA resolution Plasma display panel achieving a high brightness and a high contrast ratio. It's slim and lightweight body, together with precise images with smooth picture edges, make it ideal for Digital Signage applications. In addition, the PFM-42V1E accepts DVI signals next to a wide variety of signals.

- High performance 42-inch PDP with 16:9 ratio and 852 x 480 pixels (native WVGA resolution)
- Wide variety of signal sources from standard definition to HDTV, DTV and RGB signals up to UXGA

£2299⁹⁹

(£2702.49)

Ask for item# E486762



PFM-42BE

A 107 cm (42 inch) non-reflecting, perfectly flat panel, with an overall depth that equals the length of a credit card. The chic PFM-42B1E is the thinnest hi-res plasma screen available.

- High resolution picture performance (3,150,000 pixels)
- 2X RGB inputs
- Razor sharp images and true-to-life colours
- 2 years PrimeSupport
- For leasing information see page 3

£2999⁹⁹

(£3524.99)

Ask for item# E444969



PFM-50C1E

Light enough to be wall mounted, the 50" (127cm) screen of this impressive Sony plasma will become a feature in any environment. Get your message to everyone who needs to see it.

- High resolution PDP panel, 1365x768 pixels
- 2 x RGB inputs
- 46.7Kg
- High performance scan converter
- 2 years extended warranty
- For leasing information see page 3

£5999

(£7048.83)

Ask for item# E432154



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HP's Try and Buy enables you to purchase products without risk. You have a four week money back guarantee, should you not be entirely satisfied with the equipment after this period of time.

HP Designjet 10PS/20PS/50PS

Professional & affordable A3+ printing solution for graphic designers

The HP DesignJet A3+ print systems deliver accurate, consistent colour reproduction and excellent image quality at impressive speeds. Complete printing solutions that meet the graphic designer's demand for superior colour accuracy and image quality.

HP Designjet 10PS	£371869	£519.99	(£610.99)
HP Designjet 20PS	£372434	£899.99	(£1057.49)
HP Designjet 50PS	£391507	£2199.99	(£2584.99)



HP DesignJet 120/nr

A plug and play solution for Macintosh® and Windows® environments, this highly affordable, six colour printer gives your customers the potential to design and create vibrant, high quality documents from postcards to A1+ posters, all from one machine.

- Automatic closed-loop colour calibration ensures colour consistency
- 4-picofilter drops and 2400 dpi system provide sharp detail
- Flexibility to print on a wide range of sizes from postcards to A1+ posters and print on lengths up to 15.24 m (50 feet) with an automatic roll feed.
- 10 ppm on A4 in fast mode or 4 ppm for A3 in best mode

HP Designjet 120	£462198	£989.99	(£1163.24)
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HP DesignJet 500 Series*

A1 or A0 professional graphics printer for design studios & advertising agencies

The HP Designjet 500 printer is a professional printer at an exceptional price for architectural, engineering, construction and mechanical design. It delivers ultimate line and photo quality with continuous tones, smooth transitions and a wider colour gamut.

HP designjet 500ps 24"	£255343	£1899.00	(£2231.33)
HP designjet 500ps 42"	£256394	£2574.99	(£3025.61)

HP Designjet 500 Series printers are the perfect choice for graphics and technical professionals who want a smart, affordable system for a personal office or small workgroup. The HP Designjet 500PS printer, with a full-featured PostScript RIP, provides detailed illustrations, accurate proofs and powerful presentations for small advertising agencies, designers, and graphic artists.

* Printer stand and media bin are optional on HP DesignJet 500PS 24"



HP DesignJet 800 Series*

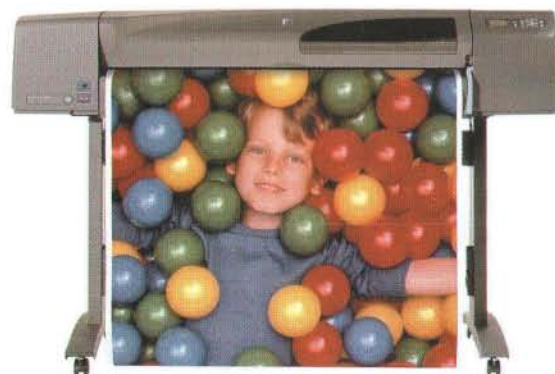
A1/A0 graphics printer at an exceptional price

Busy workgroups want large-format prints fast - and HP Designjet 800 Series printers deliver clear, crisp images with rich, true colours and uncompromising image quality - print after print.

HP designjet 800ps 24"	£256397	£3899.99	(£4582.49)
HP designjet 800ps 42"	£256398	£5274.99	(£6198.11)

HP Designjet 800 Series printers are network-ready, and contain a "virtual computer" inside, which boosts productivity by doing all of the file processing work - freeing up the computer quickly. Architectural firms, engineering departments and other technical groups rely on the HP Designjet 800 printer for fast, accurate illustrations, precise line drawings, and high-resolution renderings. The HP Designjet 800PS printer, with an included Adobe® PostScript® 3 RIP, provides detailed illustrations, accurate proofs and powerful presentations for advertising agencies, design studios, graphics workgroups, and corporate departments.

*Printer stand and media bin are optional on HP DesignJet 800PS 24"



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i n v e n t

HP PSC 2410

This top-of-the-range all-in-one delivers a host of advanced features including 6.4cm colour LCD for selecting and previewing images without a PC, direct printing from memory slots and the ability to produce borderless A4 and 10 x 15cm photos.

The HP PSC 2410 Photosmart all-in-one is designed for creative home users who are interested in digital imaging and want photo quality printing, flatbed faxing, scanning and copying at their fingertips. The built-in memory card slots will appeal to owners of digital cameras, while the integral 6.4cm colour LCD is just one of a range of tools and controls that allow key tasks to be carried out without having to connect to the computer.

£192⁹⁹
(£226.76)

Ask for item#
E484031



NEW

NEW HP PSC 1205 Photo Quality All in One



The new PSC 1205 is a stylish multifunctional device with high quality printing and convenient functions.

- Up to 4800-optimised dpi printing
- Up to 12ppm in black and 10ppm in colour
- Touch-button for colour scanning and copying
- USB 2.0 full speed for plug-and-play operation
- HP Photo & Imaging software
- Scan at up to 600 x 1200-optimised dpi and 36-bit colour

£78⁹⁹
(£92.81)

Ask for item#
E456511

HP DeskJet 5150



Ideal for the creative customer looking for a versatile printer with advanced photo features, true-to-life photo quality and fast printing speeds.

- True-to-life photo quality at up to 4800-optimised dpi colour
- Print with or without borders on 10 x 15cm and A4 photo papers
- Optional 6-ink colour printing with HP Photorec IV precision technology for virtually grain-free images
- Up to 19 pages per minute in laser quality black text
- Up to 14 pages per minute in colour

£68⁹⁹
(£81.06)

Ask for item#
E475406

HP LaserJet 2300



- Expandable to match the growth and needs of your business
- Networkable printer
- USB and parallel ports
- Upgradeable memory and input capacity
- Fast first-page-out in 10 seconds
- 50,000 pages-per-month duty cycle
- Long lasting print cartridges

£374⁹⁹
(£440.61)

Ask for item#
E458081

HP Business InkJet 1100



- Enjoy productive printing with speeds of up to 23 ppm in black and white and up to 20 ppm in colour
- HP's High Performance Architecture (HPA™) uses the resources of both the PC and the printer to process print jobs more quickly
- Never worry about image quality with HP's Photorec III precision technology, or up to 4800-optimised dpi2 colour printing

£114⁹⁹
(£135.11)

Ask for item#
E484231

NEW HP LaserJet 1300



For the user that seeks fast, reliable and compatible personal monochrome laser printing, the HP LaserJet 1300 is easy to use, easy to manage in networks, and offers flexible paper handling at low running cost.

- Network-ready printer • Upgrade easily with more memory, fonts or paper handling.
- This printer offers HP PCL 5e and PCL 6, adopted by businesses worldwide as the print standard • HP Postscript level 2 emulation

£205⁹⁹
(£242.04)

Ask for item#
E457962

HP LaserJet 4200



The award winning HP LaserJet 1300 is easy to use, easy to manage in networks, and offers flexible paper handling at low running cost.

- True 1200 x 1200 dpi
- Prints up to 33ppm
- From 48MB standard, upgradable to 416MB
- Up to 150,000 pages per month duty cycle

£589⁹⁹
(£693.24)

Ask for item#
E439421

HP Colour LaserJet 2500



Compact, networkable colour laser solution.

- Up to 4ppm in colour and 16ppm in mono
- 64MB standard memory (expandable to 256MB)
- 600 x 600 dpi with ImageREt 2400 technology
- Up to 3 paper trays and up to 875 sheet input capacity

£644⁹⁹
(£757.86)

Ask for item#
E437944

HP Colour LaserJet 4600



The HP Color LaserJet 4600 series is a simple, reliable, affordable way to add high-quality, high-speed colour laser printing to your business.

- Print colour and black & white pages at 16 ppm
- Top of the range 400 MHz processor
- Multiple paper tray options add media flexibility
- Achieve fast 18 second first page out

£1219⁹⁹
(£1433.49)

Ask for item#
E424342

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EPSON®

NEW



Stylus Photo R300

Premium quality photo printer - personalise, print and save your memories with or without a computer

- Borderless printing and resolution up to 5760 optimised dpi* for highly durable photo-lab style prints
- 6 individual ink cartridges for economical printing
- Prints directly from your USB DIRECT-PRINT or PictBridge compatible digital camera
- Integrated memory card support for computer free printing
- Design and print your own CDs, DVDs and inlay cards without using a computer

£111⁹⁹

(£131.59)

Ask for item#
E488145



Stylus Photo 950

The complete digital photo solution for home and professional photo printing

- 2880dpi - breathtaking photographic print quality
- Precise borderless printing on paper or card
- Direct CD printing as standard
- Individual ink cartridges for maximum cost efficiency
- Paper cutter and catcher for automatic trimming of roll media
- Unique EPSON software for easy photo printing, finishing and CD creation



£258⁹⁹

(£304.31)

Ask for item#
E421909



Stylus Photo 1290S

Affordable, high quality, 6 colour, A3+ photographic printer for the professional user

- Borderless prints on 100mm, A4, A3 & A3+ media without the need for over sizing or the use of a guillotine
- 2880x720dpi resolution
- Advanced 6 colour printing for true photo reproduction
- Print speeds of up to 9.4ppm black text and 9.0ppm colour
- USB and parallel connectivity for PC and Mac
- Feature-Rich EPSON PhotoQuicker 2 software included
- Adobe Photoshop Elements included



Digital Photo and
practical photo
november award

£245⁹⁹

(£289.04)

Ask for item#
E441831

DURABrite®
INK



Stylus C84 Photo Edition

High end, multipurpose inkjet printer

- DURABrite ink for exceptional image and text quality on specialist photo media through to uncoated plain paper
- Cost efficient separate DURABrite ink cartridges - only replace the ink you use
- Borderless printing up to A4 - great for photos
- Optimised 5760 dpi and 3pL variable droplet size for crisp text and vivid colour prints

£76⁹⁹

(£90.46)

Ask for item#
E478737



NEW

Stylus CX6400

All-in-one print/scan/copy solution

- High speed standalone copy solution
- 5760 optimised dpi for true photo quality output
- 22ppm high speed printing
- Money saving separate ink cartridges
- Up to A4 borderless printing
- Scan and save directly to memory card

£132⁹⁹

(£156.26)

Ask for item#
E478738



AcuLaser C900/C900N

A compact colour and black & white laser printing solution specifically designed to the needs of the smaller workgroup or smaller business

- 16ppm mono and 4ppm colour
- 2400dpi resolution
- Flexible connectivity with USB & high-speed parallel interfaces as standard. Optional automatic two sided printing facility
- Fast first page out 14 seconds in monochrome, 25 seconds in colour
- AcuLaser C900N has 10/100BaseTX networking as standard

From Only
£388⁹⁹

(£457.06)

Ask for item#
E484964

FREE Stylus CX5200
with every purchase
between October 1st -
31st December 2003.
All claims made direct to EPSON.



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Printing Solutions for your Mac from **brother** At your side.

Brother HL-4200CN

- Up to 24ppm colour & mono print speeds
 - Up to 1,200 x 1,200dpi resolution
 - 400MHz processor
 - Genuine Adobe Postscript3
 - Accurate Pantone matching
 - Network ready as standard
 - 192MB standard memory
 - Automatic Duplex as standard
 - Mac and PC compatibility
- Optional paper tray available at extra cost

FREE set of TN12 toners can be claimed direct from Brother UK with any HL-4200CN or HL-2600CN purchased before 24.12.03. Terms & conditions apply, please see promotional boxes for details.

24 pages
per minute

£1259⁹⁹
(£1480.49)

Ask for item#
E486772



Brother HL-5070N

If your office needs a network printer that's big on features but compact in size, the Brother HL-5070N provides the perfect solution.

- Print speed up to 16ppm
- 2400 x 600dpi (HQ 1200) resolution
- 16MB standard memory, expandable up to 144MB
- Printer driver for MAC & PC
- Network ready
- 1 year on-site warranty included
- Full consumables included (toner and drum)

FREE TN7300 toner cartridge can be claimed direct from Brother UK with any HL-5070N purchased before 24.12.03. Terms & conditions apply, please see promotional boxes for details.

16 pages
per minute

£274⁹⁹
(£323.11)

Ask for item#
E462442



Brother HL-2600CN

Brother's HL-2600CN colour laser printer has been developed in response to the increasing demand for cost effective, high performance colour printing from a wide range of workplace environments. The HL-2600CN delivers the perfect balance of quality workgroup printing with impressive print quality, computer compatibility and memory capacity.

- Up to 24ppm mono and 6ppm colour printing
- Up to 2400dpi colour printing
- Network Ready
- PostScript 3
- 64MB standard memory expandable to 384MB

FREE set of TN-03 toners can be claimed direct from Brother UK with any HL-4200CN or HL-2600CN purchased before 24.12.03. Terms & conditions apply, please see promotional boxes for details.

24 pages
per minute

£669⁹⁹
(£787.24)

Ask for item#
E411819



you can
Canon

Canon BJ-i70



At just 310mm wide, a massive 40% smaller than its contemporaries, the Bubble Jet i70 printer boasts the most precise and accurate print capability ever found in a portable printer.

- Fast print speeds up to 13ppm in mono and 9ppm in colour
- Bubble Jet camera direct functionality
- Advanced Microfine Droplet Technology™
- High colour inks

£175⁹⁹
(£206.79)

Ask for item#
E460412

BubbleJet i475D



Direct photo printing... fast and easy.

- 18ppm mono, 12ppm colour
- Produces a 4" x 6" photo in approx 1 min
- Print photos directly from popular memory cards
- Print from PictBridge and Bubble Jet Direct compatible digital cameras and camcorders

£115⁹⁹
(£136.29)

Ask for item#
E485108

BubbleJet i865



The Canon BubbleJet i865 is the perfect blend of photographic quality image reproduction with high-speed performance for everyday work. The i865 also offers the flexibility to print your own CD and DVD labels and allows you to print directly from compatible digital cameras.

- 23ppm mono, 14ppm colour
- Prints a full A4 photograph in approx 24 seconds using advanced Precision Color Distribution Technology
- Fast borderless photo printing
- Enhanced software tools Easy-PhotoPrint and Easy-Webprint
- ContrastPLUS, 4800dpi, advanced MicroFine Droplet Technology

£131⁹⁹
(£155.09)

Ask for item#
E484076

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THE DOCUMENT COMPANY

XEROX



Phaser 8200

Serious colour made affordable

- Up to 16ppm in full colour
- Industry leading 9 seconds first-page out time
- 1200dpi resolution in photo mode
- Fast 300MHz PowerPC processor
- Solid Ink technology gives consistent print quality on any media
- True Adobe™ Postscript 3 as standard
- A4 printer

£574⁹⁹

(£675.61)

Ask for item#
E491084



Phaser 7300

Don't just get by or put up with a satisfactory personal business printer, demand more!

- 30 ppm colour, 37 ppm black
- Single-pass technology
- Up to 2400 dpi
- 128 MB of memory (up to 512 MB plus 20GB disk)
- Media input capacity up to 2,850 sheets
- Auto-duplexing optional
- True Adobe Postscript 3 as standard
- A3 printer

£2364⁹⁹

(£2778.86)

Ask for item#
E443761



FAST

Phaser 7700

Colour perfected!

- Single Pass Laser Technology
- 22ppm colour & black and white
- 1200dpi resolution print quality with photo mode
- G4-class 500 MHz processor
- 128 MB of memory (up to 512 MB)
- 10/100Base TX Ethernet standard
- Automatic 2-sided printing as standard
- 5GB Internal hard drive • First-page-out at 13 seconds colour/10 seconds black and white
- True Adobe Postscript 3 as standard
- A3 printer

£4499⁹⁹

(£5287.49)

Ask for item#
E371142



NEW

Phaser 6250

Fast paced colour printing for the office!

- New A4 colour printer
- Up to 24 ppm in full colour / 24 ppm black
- Fantastic colour quality- 2400 dpi with photo mode
- High duty cycle of up to 100,000 pages per month
- True Adobe post-script free as standard
- Single pass laser technology
- Optional internal hard disk
- Optional two sided printing

£1159⁹⁹

(£1362.99)

Ask for item#
E483526

DESCRIPTION	ORDER NO.	PRICE
Xerox Phaser 6250N	E483545	£1309.99 (€1539.24)
Xerox Phaser 6250DP	E483547	£1399.99 (€1644.99)
Xerox Phaser 6250DX	E483552	£1949.99 (€2291.24)
Xerox Phaser 7300N	E443754	£2549.99 (€2986.24)
Xerox Phaser 7300DN	E443762	£2779.99 (€3266.49)

DESCRIPTION	ORDER NO.	PRICE
Xerox Phaser 8200EN	E491082	£898.99 (€1056.31)
Xerox Phaser 8200EDP	E491079	£949.99 (€1116.24)
Xerox Phaser 8200EDX	E491069	£1838.99 (€2160.81)
Xerox Phaser 7700GX	E371143	£4999.99 (€5874.99)
Xerox Phaser 7700DX	E371145	£5999.99 (€7049.99)



KONICA MINOLTA



**11 pages
per minute**

Magicolor 7300

Don't just get by or put up with a "satisfactory" personal business printer...demand more! The 7300 will give you great versatility and uncompromising performance output. You can print documents of varying sizes and a fantastic quality of printing with 600 x 600dpi Photo ART con-tone.

- A3+ colour laser printer
- 21ppm (A4), 10ppm (A3)
- 128 MB RAM (max 512 MB)
- Ethernet 10/100BaseTX, USB & Parallel
- Optional automatic duplex
- Internal hard drive
- Windows, Macintosh and Linux compatible
- 1 year on-site warranty

£2278⁹⁹

(£2677.81)

Ask for item#
E471991



Magicolor 3100 Print System

Neeeeooooowwwnnnn...! The Magicolor 3100 Print System is faster than any traditional colour laser printer so when your time is at a premium, your printer won't hold you up.

- 16ppm colour and monochrome
- 1200 x 1200 dpi resolution
- USB Port
- Duplex standard
- 256 MB RAM
- Postscript Level 3, PDF and PCL
- NEW Prism technology

£1239⁹⁹

(£1456.99)

Ask for item#
E391155



Magicolor® 3300 Colour Laser Print System

The fastest desktop colour laser printer yet, the Magicolor® 3300 from KONICA MINOLTA prints up to 24, laser quality, pages per minute in both black and white and colour.

- Standard duplexing
- Networked as standard
- 24ppm colour and mono
- 1200 x 1200 dpi resolution
- 256MB Ram USB & Parallel
- Postscript Level 3, PCL5 and PDF

£1548⁹⁹

(£1820.06)

Ask for item#
E481015



Magicolor 2350

If all good things come in small packages, then the Magicolor 2350 is no exception. Despite it's modest size the 2350 makes no compromises with performance and features.

- Polymerised toner for optimum quality
- 35,000 page duty cycle: ideal for smaller workgroups
- Compatible with all mainstream platforms
- 17ppm speed with 1200 x 1200 dpi for great images

1 year swap out warranty.

£754⁹⁹

(£887.11)

Ask for item#
E450477



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HP StorageWorks NAS 1000S

The HP StorageWorks NAS 1000s is an entry-level Network Attached Storage (NAS) solution that delivers quick and simple just-in-time NAS storage with multi-protocol file support and storage management for workgroups, small businesses, and remote locations. An affordable alternative to tape backup, the NAS 1000s offers TCO-reducing ease of installation and management, and it can be managed remotely. Plus, it comes with HP Global Services, providing cost-effective support to ensure continuous availability.

The HP StorageWorks NAS 1000s is the first low-end NAS device to offer quick restore functionality via CD and a dual OS partition to customers. Quick restore functionality allows customers to be back up and running with a factory default image in minutes, not hours.



- **Cost-Effective:** Low acquisition cost that provides investment protection
- **Flexible:** Provides a range of capacity points to allow customers to choose their capacity point rather than have it dictated to them. Customers have a choice of the 320GB, 640GB or 1TB models
- **High Performance:** Utilises the latest Intel P4 processors and the fastest ATA hard disk drives for optimal performance
- **Reliable:** Utilises hot swap ATA hard drives, data protection like software RAID and support for backup and anti-virus packages
- **Manageable:** Multiple management methods including Insight Manager, HP OpenView, web GUI and command console allow flexibility for management
- **Open:** Supports the major file serving protocols. CIFS, NFS, NCP, AFP, HTTP and FTP
- **Compact:** 1U form-factor provides a great storage solution that minimises space requirements. Rackmount or desktop
- **Standard:** Microsoft Windows-powered operating system allows customers to use off-the-shelf backup and anti-virus packages
- **Serviceable:** Hot swap drives allow for quick repair, customer replaceable components allow customers to self-maintain their storage

HP StorageWorks NAS 1000S 320GB	E474166	£1730.00 (€2032.75)
HP StorageWorks NAS 1000S 640GB	E474168	£2255.00 (€2649.63)
HP StorageWorks NAS 1000S 1.0TB	E474170	£2939.00 (€3453.33)

From efficient and effective network data storage to simple standalone PC removable storage, whatever the needs of your IT environment, Sony offer a manageable, affordable, and reliable solution that will match your storage requirements well into the future.

SONY
StorStation

Sony StorStation AIT Drives



£613⁹⁹
(£721.44) Ask for item# E447874

Deciding upon the right storage solution for your business needs can be an increasingly difficult task in today's rapidly expanding market. Speed, reliability and a high storage capacity are obvious essentials, but are useless statistics without complete software support and backward compatibility with your existing storage system. Fortunately, the StorStation AIT family is equipped to meet all the storage needs demanded by small to medium sized businesses, both now and in the future. Select from a range of tape technologies, from the low end right through to the high end of the spectrum.

- Capacities ranging from 90GB (AIT-1) to 260GB (AIT-3) compressed*
- AIT drives have one of the lowest failure rates and offer 30 year tape media life, providing maximum data protection
- Retrieve data or files in less than 35s with AIT unique MIC feature
- TapeCopy software for seamless data migration from older tape formats
- Clear future roadmap protecting your investment for years to come
- 3 Year Next Business Day Swap Programme for hassle-free peace of mind

* Assuming 2.6:1 compression (ALDC algorithm). Actual capacity and transfer rate depend on the type of data being transferred.

Sony AITe90-UL USB2.0/Firewire AIT-1 Tape Drive	E447874	£613.99 (€721.44)
Sony AIT90e Ext SCSI AIT-1 Tape Drive	E401793	£739.99 (€869.49)
Sony AIT130e Ext SCSI AIT-2 Tape Drive	E401813	£946.99 (€1112.71)
Sony AIT260e Ext SCSI AIT-3 Tape Drive	E403476	£2135.71 (€2509.46)

Sony StorStation AIT Autoloaders



£2039
(£2395.83) Ask for item# E469628

The Sony LIB81 Autoloader series is the ideal entry-level tape automation whether upgrading from a single tape drive, DDS Autoloader or taking the first step towards automated, centralised backup.

- Compact desktop or sleek rackmount (19-inch 1U) versions available
- Capacities ranging from 728GB up to 2.08TB (compressed*) capacity
- Backup data at up to 43.2GB/Hr (native) with AIT-3
- 3 Year Next Business Day Swap Programme for lower cost of ownership
- The StorStation AIT Autoloaders are the perfect backup and restore solutions for small to medium organisations

* Assuming 2.6:1 compression (ALDC algorithm). Actual capacity and transfer rate depend on the type of data being transferred.

In addition, if you purchase a qualifying StorStation Autoloader by 31st November you will receive 7 FREE Data Media making these solutions the best choice for data back up!

Sony Desktop AIT Autoloader LIB-D81/A1EU 280GB-730GB (native - compressed)	E469628	£2039.00 (€2395.83)
Sony Desktop AIT Autoloader LIB-D81/A2EU 400GB -1040GB (native - compressed)	E469629	£2399.99 (€2819.99)
Sony Desktop AIT Autoloader LIB-D81/A3EU 800GB -2.08TB (native - compressed)	E469631	£4299.00 (€5051.33)
Sony LIB81ea-A2 AIT-2 Autoloader	E425575	£3249.00 (€3817.58)
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Iomega Zip 750MB FireWire Drive

The 750MB Zip drive has more speed and capacity to save, so that you can protect and organise your valuable data. Using durable Zip 750MB disks, you can backup and move your files at 8MB per second! Give your data ultimate security with the included Iomega Automatic Backup software...start saving the smart way.

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- High transfer speeds of 8MB per second
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- Save your valuable data the smart way



£90⁹⁹
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Iomega Zip Internal Atapi Drive	E429911	£90.99	(£106.91)
Iomega Zip 750 Pack Media	E429912	£30.29	(£35.59)
Iomega Zip 250MB USB 2.0 Drive	E332597	£66.99	(£78.71)
Iomega Zip 100MB USB 2.0 Drive	E344147	£50.99	(£59.91)

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- Only 37dB



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- 5 x Optical Zoom
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- 120x digital zoom
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- 2.5" LCD

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- 22 x optical zoom/440 x digital
- 2.5" LCD compact design

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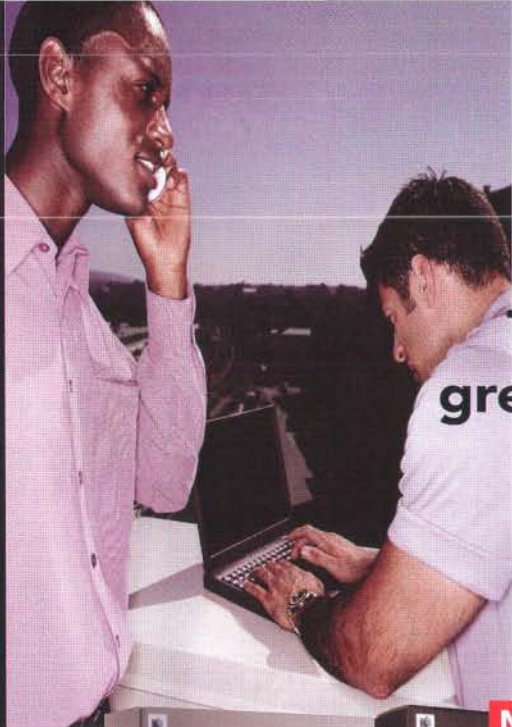
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Available in 4 colours!

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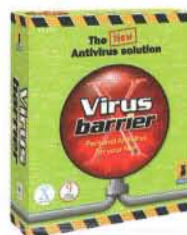
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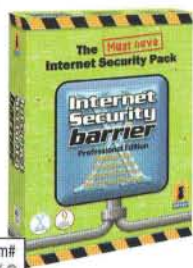
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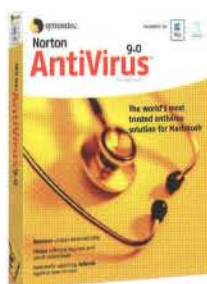
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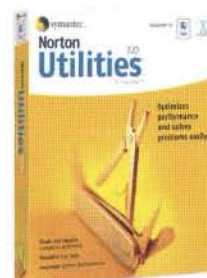
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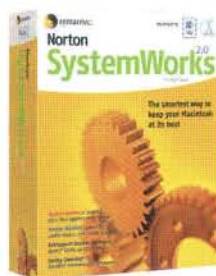
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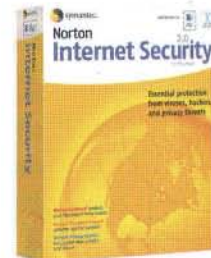


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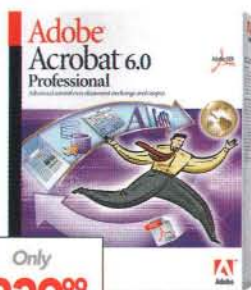
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Suitcase X1

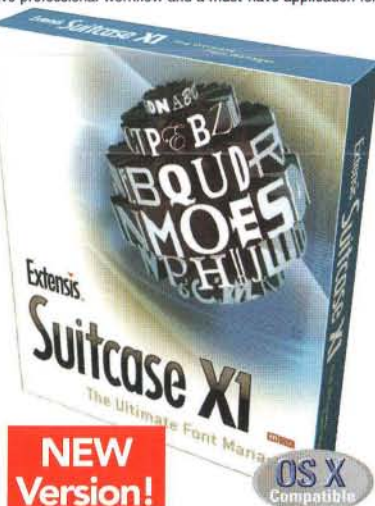
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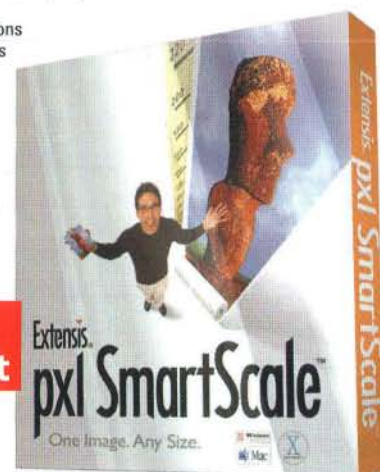
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NEW Product

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pxl SmartScale 1.0 Mac	E471318	£149.99 (£176.24)
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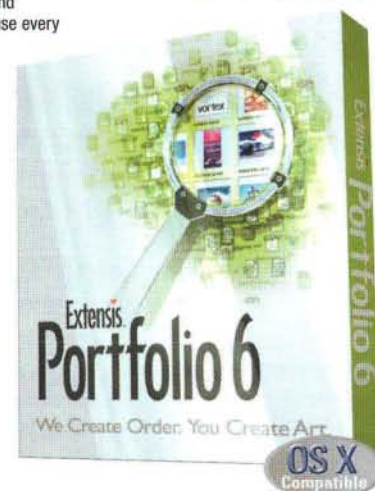
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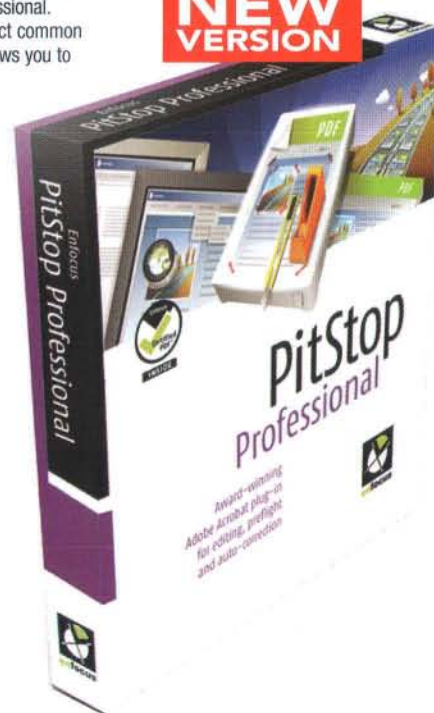
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QuarkXPress 6.0 Upgrade from 5.0 Mac	E470870	£209.99 (E246.74)
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QuarkXPress 6.0 Upgrade from 3.0 Mac	E470873	£409.99 (E481.74)
QuarkXPress Passport 6.0 Upgrade From Passport 5.0 Mac	E470900	£229.99 (E270.24)
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- Complete multimedia suite: record voice memos, listen to audio files4, view images and video clips

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- Optional built-in Bluetooth

from **£1488⁰⁰**
(£1748.40 inc VAT)

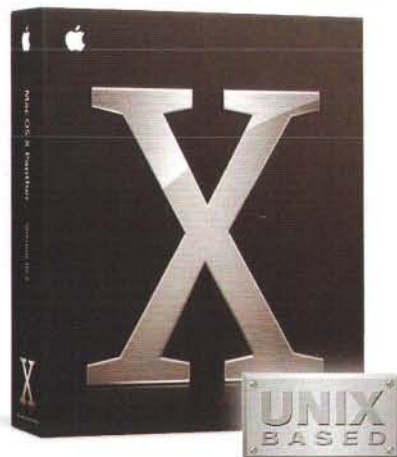
Presenting the new 20" iMac

Designed to be the digital centerpiece of your home and the fastest way to the Internet, the new iMac family comes with a choice of three flat-panel displays — including an amazing new 20-inch widescreen display that can show more than two full pages of text and graphics side by side. And the 20-inch screen adjusts just as easily as you'd expect from an iMac. The new iMac offers fast G4 processors, speedy 333MHz DDR memory, blazing 3D graphics, FireWire 400 and high-speed USB 2.0. Plus the latest in wireless communications with support for AirPort Extreme and optional built-in Bluetooth.



Choose from 15", 17" or 20" models

Apple iMac 15" 1GHz/256/80Gb/ ComboDrive/56k modem	£849⁰⁰ (£997.58 inc VAT)
Apple iMac 17" 1.25GHz/256/80Gb/ SuperDrive/56k modem	£1229⁰⁰ (£1444.08 inc VAT)
Apple iMac 20" 1.25GHz/256/80Gb/ SuperDrive/56k modem	£1488⁰⁰ (£1748.40 inc VAT)



NEW OS X Panther arrives!

Mac OS X version 10.3 "Panther" gives you everything you need to live in the digital age. The entire system and its applications are designed to work well with each other and suit your individual computing style.



Exposé



Font Book



Full iChat AV



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£799⁹⁵
(£93.94 inc VAT)

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(includes 5 licences for domestic use only)
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(£159.74 inc VAT)

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Refurb Deals
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Cancom is the only Apple authorised reseller of refurbished and clearance Apple computers. Click here to go straight to the best deals around.

Many of the boxed software titles we sell, from companies such as Connectix, Corel, Macromedia and Symantec are offered as ESD versions, which means you get your hands on the software you need faster.

The Cancom Licensing Store (Powered by IT). The easiest way to work out your IT licensing requirements and to orders online.

The screenshot shows the Cancom website interface. At the top, there's a navigation bar with links like 'shop', 'search', 'help', 'information', 'more', and 'my account'. Below this, there's a search bar and a 'Go' button. The main content area features several promotional banners and product listings. Key items include 'APPLE iBOOK G4 800MHz-1GHz/USB2/OS10.3 and lots more...', 'NEW! APPLE 10/20/40GB iPods From £209', and 'ADOBE CREATIVE SUITE'. There are also sections for 'Education', 'Refurb Deals', 'Falling Price Auctions', 'HOT Clearance Offers', 'Software Download Store', 'Licensing Store', and 'Get the catalogue'. A 'Bestseller List' is visible on the right side, listing various Apple and software products.

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Unique to the UK our showrooms are spread throughout the South East of England, located in and around the town centres of Brighton, Cambridge Croydon, Guildford and Kensington. Come along and see our fully equipped showrooms with the latest range of Apple hardware and software. In addition to our trained sales staff our stores have qualified Apple service engineers to manage your service, maintenance and repair requirements. *To try before you buy please call in advance to arrange a demo.

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Call today for a copy of our latest catalogue



NEW Power Mac G5

The world's fastest personal computer and the first with a 64-bit processor - which means it breaks the 4 gigabyte barrier and can use up to 8 gigabytes of main memory. The new G5 processor - available at speeds up to dual 2GHz with a new ultra high-bandwidth system architecture featuring AGP 8X and PCI-X - makes the Power Mac G5 a breakthrough in processing power.

The G5 dramatically accelerates performance in real world applications, too. When compared head-to-head against the same PCs, in a large series of Photoshop tests the dual 2GHz Power Mac G5 is 2.2 times faster than the 3GHz Pentium 4-based system and almost twice as fast as the dual 3.06GHz Xeon-based system. Additional performance tests reveal similar performance gains for professional music and audio creation, and scientific analysis of genetic research.



CTO models available from £169.00 + vat. call for details

New PowerMac G5 Features

- 1.6GHz, 1.8GHz, or dual 1.8GHz or 2GHz PowerPC G5
- PowerPC with 64-bit data paths and registers
- 256MB of PC2700 SDRAM (1.6GHz system)
- 512MB of PC3200 SDRAM (1.8GHz & 2GHz systems)
- 80GB or 160GB 7200-rpm Serial ATA drive installed (CTO option available)
- Support for up to two internal Serial ATA drives
- Optical drive bay with SuperDrive (DVD-R/CD-RW)
- 10/100/1000BASE-T Ethernet connector (RJ-45)
- Expansion slot for optional AirPort Extreme Card
- External AirPort Extreme antenna
- Optional Bluetooth 1.1 module and antenna
- One FireWire 800 port and two FireWire 400 ports
- Three USB 2.0 ports, two USB 1.1 ports on keyboard
- Front headphone minijack and speaker
- Optical digital audio in and out Toslink connectors
- Stereo audio in and out minijacks

G5 Dual 2GHz 512Mb/160Gb/ SuperDrive	£1949.00 (£2290.08 inc VAT)
G5 1.6GHz 256Mb/80Gb/SuperDrive	£1299.00 (£1526.32 inc VAT)
G5 1.8GHz 512Mb/150Gb/SuperDrive	£1569.00 (£1843.58 inc VAT)
G5 Dual 1.8GHz 512Mb/160Gb/ SuperDrive/GE Force FX 5200	£1616.00 (£1898.80 inc VAT)

To add extra hard drives or memory please call your nearest Cancom AppleCentre.

NEW Adobe Creative Suite

Introducing the new Adobe Creative Suite. Built for Mac OS X and optimised for the Power Mac G5, it represents the most complete upgrade in Adobe's history. The Suite includes turbocharged versions of your favourite professional tools at an outstanding value.

The Adobe Creative Suite is available in two versions. The Premium edition combines full versions of Adobe Photoshop CS, Adobe Illustrator CS, Adobe InDesign CS, Adobe GoLive CS, and Adobe Acrobat 6.0 Professional software with innovative Version Cue™ file management features, a smooth Adobe Portable Document Format (PDF) workflow, and valuable training resources. Also available is a Standard edition, which combines Photoshop CS, Illustrator CS, and InDesign CS—also supported by Version Cue file-management features, an Adobe PDF workflow, and training resources—for a comprehensive publishing solution.



PhotoShop CS

- Improved File Browser
- Match Color command
- Digital camera support
- Comprehensive port
- Customizable keyboard shortcuts

Upgrade from **£125.95**
£147.99 inc.VAT



InDesign CS

- Smooth workflow
- Advanced typographical controls
- Flexible workspace management
- Direct export of PDF files
- Unlimited undos

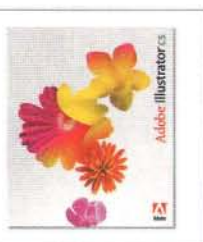
Upgrade from **£139.95**
£164.44 inc.VAT



Illustrator CS

- Advanced typographical controls
- Enhanced Adobe PDF file creation
- Adobe PDF layers support
- Faster performance
- 3D effects

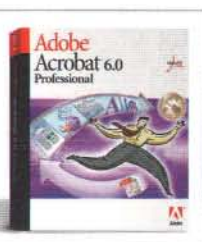
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Acrobat 6.0 Pro

- Reliably exchange documents
- Streamline critical document reviews
- Protect intellectual property
- Ensure high-quality printed output

Upgrade from **£119.95**
£140.94 inc.VAT



Adobe Creative Suite Premium Full	£949.95 (£1116.19 inc VAT)
Adobe Creative Suite Premium Upgrade	£565.95 (£664.99 inc VAT)
Adobe Creative Suite Standard Full	£775.95 (£911.74 inc VAT)
Adobe Creative Suite Upgrade	£409.95 (£481.69 inc VAT)

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BEST SELLERS

A selection of some of the best selling and new products this Autumn.

Formac 20" LCD

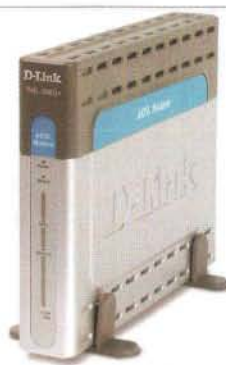
If you're looking for large-scale superior image quality in a cool, slim space-saving design the Formac Gallery 2010 flat panel display is for you. Utilising the latest in TFT flat screen LCD technology, the Gallery is the ideal display for graphics artists, video editors, business professionals and education users who demand the very best in screen technology. ADC or DVI models available.



Formac 2010 LCD Display **from £799.95**
(£939.94 Inc VAT)

ADSL Modem

The D-Link DSL-300G+ ADSL modem provides high-speed broadband connection from a Mac or from a router or gateway. Connects to the Ethernet port of your Mac. As external modems, installation is very simple and straightforward without the need to open up your computer. These modems are compact, so they take very little space on your desk.



D-Link DSL -300G+ **£61.95**
(£72.79 Inc VAT)

DYMO Labelwriter

The most versatile label printer for any office. Handles more than 40 standard label sizes up to 56 mm wide, including address, Internet postage, shipping, file folder, disk, video, name badge, cassette, ZIP disk, and many more. Comes with easy to use DYMO Label Software, integrates directly with Microsoft Word, Outlook, the Palm Desktop, GoldMine, ACT, CardScan and TeleMagic, and works with all other software through standard print drivers.



DYMO LabelWriter 320 **£129.95**
(£152.69 Inc VAT)

As seen on TV!

Canon PowerShot A80

NEW!

The Canon PowerShot A80 is ideal for developing your digital photography skills. Easy for first-time users, yet with an impressive range of features and accessories you can grow to a more advanced level.

- 4.0 Megapixel CCD
- 3x optical zoom
- 12 shooting modes
- DIGIC processor



Canon PowerShot A80 **£295.95**
(£347.74 Inc VAT)

EPSON 3170

This is the scanner for experienced users and photo enthusiasts, it captures amazing 3200dpi scans at very high speed. It has a built-in Film Adapter for 35mm negatives/positives and 6 x 9cm medium format, while the TPU lamp has been chromatically optimised for film scanning.



EPSON Perfection 3170 **£169.95**
(£199.69 Inc VAT)

Graphire 3

Graphire3 is aimed at the home user / digital photo & video audience, offering a complete solution to users who own a digital camera and now seek software & solutions to get more from their photos and video.



Wacom Graphire 3 Classic A6 Tablet **£59.95**
(£70.44 Inc VAT)

Wacom Graphire 3 Studio A6 Tablet **£85.95**
(£100.99 Inc VAT)

Wacom Graphire 3 Studio XL A5 Tablet **£151.95**
(£178.54 Inc VAT)

HP PhotoSmart 7660

The HP Photosmart 7660 photo printer delivers fast convenient photo printing with or without borders. With up to 6-ink color or up to 4800-optimized dpi, it's so simple to select and save or print true-to-life photo. Two built-in paper trays, making it easy to print both 4 x 6-inch and standard size prints with or without borders.



Hewlett Packard PhotoSmart7660 **£119.95**
(£140.94 Inc VAT)

SmartDisk FlashTrax

FlashTrax can safely store high-res images on the built-in 30, 40 or 80Gb hard drive and displays them on a 3.5" LCD. FlashTrax can also serve as an external hard drive to transfer, store and access data or act as a simple backup device.



FlashTrax 30Gb **£279.95**
(£328.94 Inc VAT)

FlashTrax 40Gb **£339.95**
(£399.44 Inc VAT)

FlashTrax 80Gb **£459.95**
(£540.44 Inc VAT)

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APPLE HARDWARE

Apple G4 PowerBook

Choose from three new ultrafast models: small, medium or epic. The new PowerBook family gives you power in a choice of three ultrafast portables. Whether you prefer the ultra-compact 12-inch model, the coveted 15-inch powerhouse, or the stunning 17-inch beauty, every new PowerBook G4 is loaded with advanced capabilities. Like turbocharged PowerPC G4 processors, DVD-burning SuperDrive, the fastest speeds in wireless networking, and cutting-edge graphics, fits snugly in your backpack — and your life.

With its extra long battery life, compact size and ultralight weight, the iBook G4 can accompany you everywhere. And with a choice of 12.1-inch or 14.1-inch displays, turbocharged 800MHz, 933MHz or 1GHz PowerPC G4 processors, 30GB, 40GB or 60GB Ultra ATA/100 hard disk drives, 256MB of RAM expandable to 640MB.



12.1" PowerBook G4 1GHz 256Mb/40Gb	£1229⁰⁰ (£1445.24 inc VAT)
15.2" PowerBook G4 1.25GHz 512Mb/80Gb	£1699⁰⁰ (£1996.32 inc VAT)
17.1" PowerBook G4 1.33GHz 512Mb/80Gb	£1999⁰⁰ (£2348.82 inc VAT)



Tucano Skins from £19.95 +VAT

Apple G4 eMac

Affordable G4 processing power
The PowerPC G4 with Velocity Engine uses the same 128-bit vector processing technology featured in scientific supercomputers — just what you need to accelerate intensive multimedia calculations, import audio files and create video transitions in iMovie. In fact, the eMac's 1GHz PowerPC G4 processor lets you encode DVDs in real time. The bottom line is that the eMac G4 processor makes digital media creation faster.

- 1GHz PowerPC G4 processor with Velocity Engine
- 256K on-chip level 2 cache at full processor speed
- 133MHz system bus
- 128MB or 256MB of PC133 SDRAM, max 1GB
- 40GB or 80GB Ultra ATA hard disk drive
- Choice of Combo drive (DVD-ROM/CD-RW) or SuperDrive (DVD-R/CD-RW)
- Built-in 17-inch flat CRT
- Built-in 56K V.92 modem (RJ-11 connector)
- Built-in 10/100BASE-T Ethernet (RJ-45 connector)
- ATI Radeon 7500 graphics processor with AGP 4X support
- Panther 10.3

eMac G4 1GHz 128Mb/40/CD (education only)	£499⁹⁵ (£587.44 inc VAT)
eMac G4 1GHz 128Mb/40/Combo	£549⁹⁵ (£646.19 inc VAT)
eMac G4 1GHz 256Mb/80/SuperDrive	£719⁹⁵ (£845.94 inc VAT)



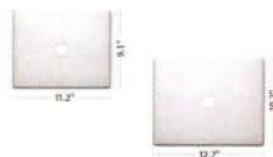
Apple G4 iBook

The world's best-loved consumer portable gets an impressive makeover with a superfast PowerPC G4 processor with Velocity Engine, a new architecture, a slot-loading optical drive and enhanced wireless networking capabilities. Plus Mac OS X v10.3 Panther, the world's most advanced operating system. Perfect for everything from doing your homework to playing games, and from watching DVD movies to burning your own music CDs, the 4.9-pound iBook G4 fits snugly in your backpack — and your life.

- 12" or 14" models available
- 800, 933MHz or 1GHz G4
- 256Mb of Ram
- 30Gb, 40Gb or 60Gb
- ComboDrive
- Optional BlueTooth
- Optional Airport Extreme



iBook G4 12" /800MHz/256Mb/ 30Gb/ ComboDrive	£719⁹⁹ (£845.99 inc VAT)
iBook G4 14" /933MHz/256Mb/ 40Gb/ ComboDrive	£849⁹⁹ (£998.74 inc VAT)
iBook G4 14" /1GHz/256Mb/ 40Gb/ ComboDrive	£1019⁹⁹ (£1198.49 inc VAT)



Apple iSight

iSight is a state-of-the-art video camera that's the easiest way to video conference with your colleagues, friends and family over broadband. Featuring an autofocus autoexposure F/2.8 lens which captures high-quality pictures even in low lighting, iSight also includes a dual-element microphone in its stylish compact aluminum body.

Apple brings award-winning product design to iSight — and it's like no other camera available today. A versatile, durable, lightweight and portable camera capable of delivering high-quality audio and video, iSight features a strong aluminum-alloy exterior which protects sophisticated electronics and its autofocus lens. A single FireWire cable streams video and audio and also delivers power to the camera.



Apple iSight digital web cam	£99⁹⁹ (£117.49 inc VAT)
Apple iSight accessory kit	£21²⁸ (£25.00 inc VAT)



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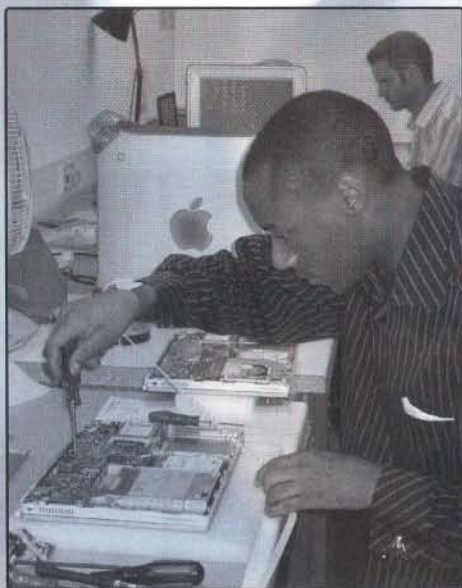
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Cancom's Mac Clinic is now OPEN!

- Is your Mac crashing frequently?
- Is your hard drive making noises?
- Are you having problems with the internet?
- Is your Mac over a year old and in need of a service?

Is your Mac due a health check?

Cancom offers a health check for your Mac for only £49 + Vat. For this low price you will get the following:-

- Hardware check
- Anti-virus check
- File and directory system check

- Internal valet of your Mac
- Advice on updating your Mac with a view to better performance.

If you should decide to take our qualified Apple engineers upgrade advice, we will fit up to two upgrades free of charge. Parts will be charged at normal prices as part of your Health Check. Prices are based upon the items being delivered and collected from our showroom (or you may bring your Mac in personally). We can also provide a collection and delivery service at an additional cost. See staff for details.

Diagnostic Service - If the problem with your Mac is a little more serious, Cancom offer a diagnostic service for £65 + Vat / per hour. A qualified Apple engineer will diagnose the faulty component(s) and provide you with a quotation for the repair. Cancom will include a healthcheck as well.

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Our objective is clear, to solve end user computer problems, fast and efficiently, with Cancom computer care support packages.

Our highly professional ACSE (Apple Certified Systems Engineer) technical support service has been designed for computer users who require a rapid response as an alternative to back-to-base in house warranty repairs. Cancom are all too aware that large or small IT problems can cost your company valuable time and money.



Refurb Zone, the only Apple authorised reseller

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PowerMac G5 1.6Ghz

- 1.6Ghz PPC G5
- 256Mb Ram
- 80Gb Hard Disk
- SuperDrive
- GeForce FX 5200
- 56k Modem
- 3 month Cancom warranty

£1099⁰⁰
£1291.32 inc.VAT



PowerMac G5 1.8Ghz

- 1.8Ghz PPC G5
- 512Mb Ram
- 160Gb Hard Disk
- SuperDrive
- GeForce FX 5200
- 56k Modem
- 3 month Cancom warranty

£1249⁰⁰
£1467.57 inc.VAT



PowerMac G5 2.0DP

- Dual 2Ghz PPC G5
- 512Mb Ram
- 160Gb Hard Disk
- SuperDrive
- Radeon 9600 Pro
- 56k Modem
- 3 month Cancom warranty

£1799⁰⁰
£2113.82 inc.VAT



PowerBook 17" G4 1Ghz

- 1Ghz G4 Processor
- 512Mb Ram
- 60Gb Hard Disk
- SuperDrive
- Airport & Bluetooth
- 56k modem
- 12 month Apple warranty

£1699⁰⁰
£1996.32 inc.VAT



PowerMac Dual G4 1.42Ghz

- Dual 1.42Ghz G4 Processor
- 512Mb Ram
- 120Gb Hard Disk
- SuperDrive
- Radeon 9000 pro
- 3 month Cancom warranty

£1299⁰⁰
£1526.32 inc.VAT



PowerMac G4 1Ghz

- 1Ghz G4
- 256Mb Ram
- 60Gb Hard Disk
- ComboDrive
- GeForce 4MX
- 3 month Cancom warranty

£699⁰⁰
£821.32 inc.VAT



All Apple refurbished equipment comes with a 3 month Cancom warranty. Upgrade to 6 months warranty for only £29 + VAT or upgrade to a full Cancom 12 month warranty for only £49 + VAT.

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CANCOM

iPod & Accessories

Apple iPod

The new super-slim iPod once again redefines what a digital music player should be. It's lighter than 2 CDs, can hold up to 10,000 songs, thousands of digital photos and works as a personal voice recorder. Now you can sync with iTunes for Mac and Windows at blazing speeds, and take your entire music collection with you wherever you go. Available for Mac and Windows.

New 20GB and 40GB models

Smaller than ever (just 0.62 inches thick), the iPod fits comfortably in the palm of your hand and slips easily into your pocket — and your life. At 5.6 ounces, it weighs less than 2 Compact Discs, and even many cell phones. And yet the iPod gives you a huge 10GB, 20GB or 40GB hard drive — big enough to hold 10,000 songs. Do the math: that's four weeks of music — played continuously, 24/7 — or one new song a day for the next 27 years.

Apple iPod 10Gb	£209⁹⁹ (£246.74 inc VAT)
Apple iPod 20Gb	£254⁹⁹ (£299.61 inc VAT)
Apple iPod 40Gb	£339⁹⁹ (£399.49 inc VAT)



Up to 10,000 songs in your pocket

Apple Leather Case

With precise stitching and high-quality Schoeller woven nylon, this carrying case allows you to clip your iPod to your belt, purse, or backpack with its durable steel spring clip. For new 10GB, 20GB and 30GB iPods with dock connector only.



only £24⁹⁵
£29.32 inc VAT

Belkin Voice Recorder

Now you can record memos, lectures, interviews, or conversations — simply by plugging the Voice Recorder into your iPod. The iPod's abundant storage capacity lets your store hundreds of hours of high-quality audio.



only £34⁹⁵
£41.07 inc VAT

Belkin Media Reader

Lets you store more than tunes. It gives you a great way to back up digital images to your iPod, and take them with you on the road. Your iPod's abundant storage handles thousands of digital photos and frees up your camera's disk space so you can take more pictures.



only £75⁹⁵
£89.24 inc VAT

Belkin Battery Backup

Keep the music playing by on your iPod with replaceable batteries—even when your internal battery is drained. It's a great solution for anytime you don't have access to an AC outlet. The Battery Pack uses four standard 'AA' alkaline batteries that you can simply replace.



only £31⁹⁵
£37.54 inc VAT

Dr Bott iPod Mini Kit

This Apple-White iPod Cassette Adapter is ideal for integrating your iPod into any portable car cassette player. The adapter has an attached 24kt gold Stereo mini-plug. Gives you the opportunity to listen to your iPod through your car stereo or through any tape player.



only £15⁹⁵
£18.74 inc VAT

Creature Speakers

3 piece speaker system includes two desktop speakers and a subwoofer. Both speakers and the subwoofer are magnetically shielded to provide protection against image distortion on a monitor.



only £89⁹⁵
£105.69 inc VAT

DLO Action Jacket

Features a seamless balance of function and style and provides the most protection and portability available for iPod. At 2.5mm of thick neoprene, the Action Jacket has a custom playthrough design, allowing access to iPod's jog wheel, four buttons and display.



only £29⁹⁵
£35.19 inc VAT

also available in black

DLO Jam Jacket

The Jam Jacket is made from an injection moulded translucent rubber that fits your iPod like a glove. The Jam Jacket features a play-through design that provides total access to all of the iPod's control buttons and scroll wheel. *Fits new iPods 30 & 40Gb only.*



only £24⁹⁵
£29.32 inc VAT

Belkin Auto car charger

connects your iPod device to your car's power source and includes a cable that charges your iPod from your car's cigarette lighter. The Auto Kit also provides an adjustable amplifier and 3.5mm jack that lets you play your iPod through your car stereo.



only £29⁹⁵
£35.24 inc VAT

Marware Sportsuite convertible

Offers rugged protection for the iPod on the go. A belt clip system offers interchangeable clip options. An armband and belt feature make it ideal for jogging or working out. Hardened outer shell for increased protection.



only £29⁹⁵
£35.24 inc VAT

available in black, graphite & red

NAVi Pod IR remote

With the naviPOD, you are in control...wirelessly! The naviPOD consists of a 5-button infrared remote control and a receiver unit that plugs directly into the top of the iPod. Plug in a pair of speakers or connect to a stereo receiver/amplifier, and the iPod will function as the centerpiece.



only £35⁹⁵
£42.24 inc VAT

iPod World traveller kit

£24⁹⁹
(£29.36 inc VAT)

iPod Power adapter

£39⁰⁰
(£45.83 inc VAT)

iPod Dock (new version only)

£24⁹⁹
(£29.36 inc VAT)

iPod FireWire cable (dock connector)

£12⁹⁹
(£15.26 inc VAT)

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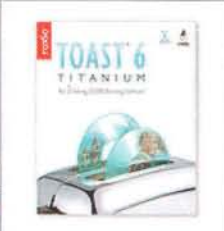
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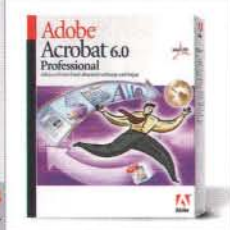
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- iPhoto CD-burning • OS X speech • Audio tweaking • iCal tips

Q&A/tips

Handy tips and readers' questions answered. **By Christopher Breen**

Change of address

Q I've collected several hundred URLs in Netscape 4.7 by drag-&-dropping the small icons at the left end of the Location field onto the desktop (where they turn into bookmark files). Then I upgraded to Netscape 7. Now when I double-click on one of the old icons, it opens as a file in Netscape, rather than directing my browser to the site. Is there a way to convert my older bookmarks to work with Netscape 7?

A E Siegman

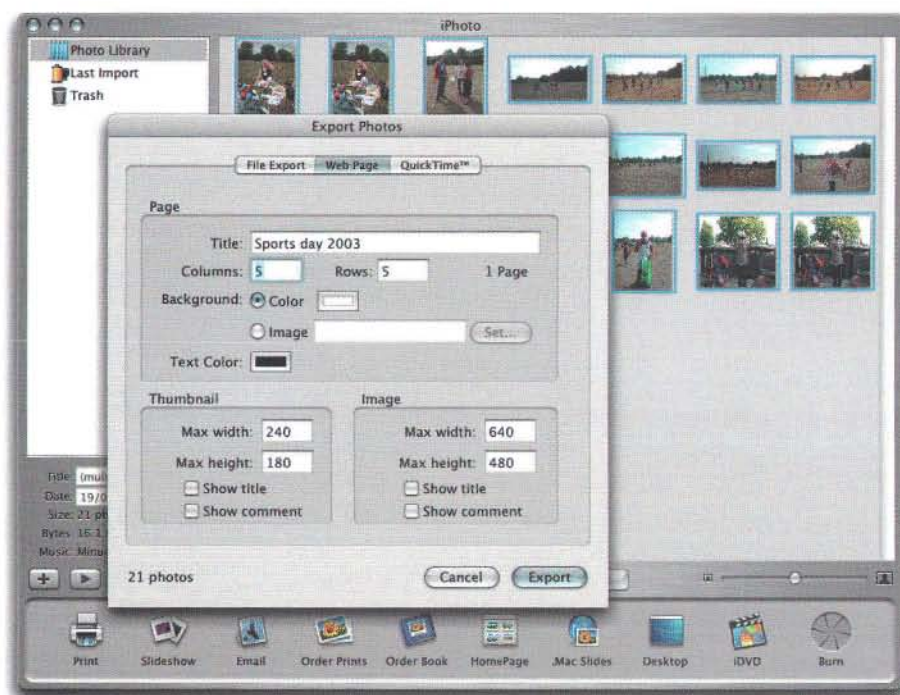
A There is. Download, install, and launch a copy of Alco Blom's \$25 URL Manager Pro (www.url-manager.com). Create a new folder by selecting New Folder from the Bookmarks menu, and give it an intuitive name such as Convert. Drag your URLs into this folder and, once they appear, drag them right out again. This converts them into Web Internet Location files. Double-click on one of these files, and your default Web browser will launch and whisk you to the Web site associated with that URL.

Short clips

Q When I make an iMovie film, I like to archive it to DV tape. I occasionally need to edit an archived movie, but when I capture it into iMovie, the program automatically divides it into clips. Is there any way to make iMovie capture the movie into a single video clip? Jeffrey Johnston

A It depends on the length of your video. iMovie creates new clips when it detects a scene change — a convenient feature when you capture raw footage, but not desirable in your situation. Thankfully, you can easily put an end to this automatic clip creation. Just select Preferences from the iMovie 3 menu and deselect the Automatically Start New Clip At Scene Break option.

This may not completely free you from multiple clips. iMovie limits clips to 2GB (which works out to 9 minutes, 28 seconds, and 2 frames). If your video exceeds this length, iMovie automatically creates a new clip when it reaches the 2GB limit.



Picture disc

Q I read an article recently that described how to create an HTML file with relative links to photos on a CD-ROM on a Windows PC. It contained a lot of HTML code. Is there an easier way to do this on the Mac?

John Peterson

A This can be more difficult on a PC because of Windows' insistence on assigning letters to media drives and hard drives. If you use Windows' regular file shortcuts, they may point to the pictures on the PC's hard drive rather than to the files you've burned to the disc.

And that, dear John, is Why Windows Stinks: Reason 9,862. There's no need to write a single smidgen of HTML code to accomplish this task on a Mac. Just launch iPhoto 2, select the photos you'd like to add to your disc, and select the Export command from iPhoto's File menu. In the resulting Export Photos window, click on the Web Page tab and enter a title for your photo album in the Title field (MyCoolPix, for example). If you care to, change the settings for the number of columns and rows of pictures, as well as for the size of the thumbnails and images, on the HTML pages iPhoto generates. Click the Export button; in the sheet that appears, create a new folder to store the HTML files in. Select this new folder and click OK. Your collection of photos will be saved as a series of HTML index files that display thumbnails of your pictures, as well as folders that contain those thumbnails and the full image files.

Insert a blank CD, copy the folder you created to the CD, and burn the CD. To browse the finished CD, simply shove it into a Mac or a PC and double-click on the index page (which, using the earlier example, would be called MyCoolPix.html). The computer's default browser will open, revealing the first page of the index, replete with thumbnails of your pictures. Click on a thumbnail to view the full image.

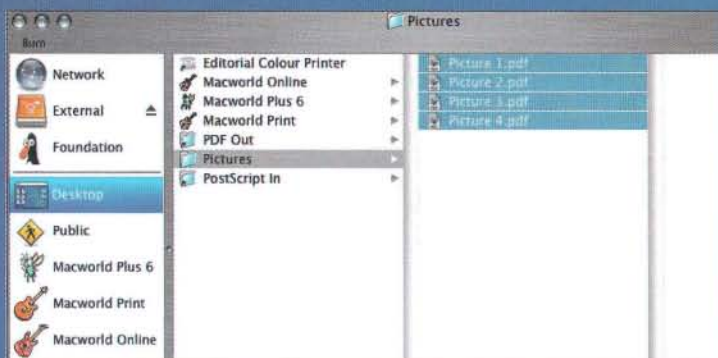
continues page 292

Open picture files in order

TIP When you select multiple picture files numbered in a series – Picture 01, Picture 02 and Picture 03, for example – and double-click on them, Preview doesn't display them in order.

There are two ways to make the pictures appear in sequence: open a folder full of pictures in column view, select them all, and double click on them.

Or launch Preview, press **⌘-O** to produce the Open dialog box, navigate to your pictures, **⌘-click** on the pictures you want to view, and click Open. With either method, the thumbnails will appear in the proper order.



The song remains the same

Use iMovie to link audio tracks together in one long tune – great for continuous background music.

Missing link

Q Is there any way to connect a number of tunes in iTunes, for background music behind a long slide show?

Bill Semple

A I haven't found a slideshow application that can do this. However, there's no reason you couldn't stitch together the tunes you'd like to play during your slide show. The free way to do this is to import the songs you want to join into iMovie 3.

Click the Audio button in iMovie and drag the songs you want to string together into the timeline (these songs can be in any audio format that iTunes supports, including protected AAC files from the iTunes Music Store).

Select Export from iMovie's File menu, and in the iMovie: Export window that appears, select To QuickTime from the Export pop-up menu. Choose Expert Settings from the Formats pop-up menu and click the Export button.

In the resulting Save Exported File As window, choose Sound To AIFF from the Export pop-up

menu; then name and save the file (see "The song remains the same", left). The tunes are now contained in a single audio file that can be used to accompany the slide show.

If you're willing to convert your slide show into a QuickTime movie, you can create the entire slide show in iMovie. Add nothing except still clips to your movie, drag the song files into iMovie's soundtrack, adjust the length of the still pictures so they fit the length of the soundtrack, and then export your creation as a QuickTime movie.

Days of our lives

Q I love the power of Microsoft Entourage and its tight integration with the rest of Microsoft Office. However, I'm extremely envious of the ability to painlessly publish an iCal calendar on my .Mac homepage.

Yet to do this, I must delete my current Entourage import from iCal, import my Entourage calendar into iCal, and publish the new iCal calendar to the Web.

This is so time-consuming that I don't do it nearly often enough. I've been looking everywhere for an easy solution to this problem, but haven't found one. Maybe you can help? Barry Rosenbaum

A Maybe I can. If you wish only to get your Entourage calendar onto your .Mac site, you can skip iCal altogether.

Just click the Calendar button in Entourage and select Save as Web Page from the File menu. In the resulting window, enter the start and end dates for your calendar (December 1 – December 31, for example) and click Save. In the Save dialog box that appears, give your calendar a name – something snappy; 'calendar', for example.

Now mount your iDisk and drag the resulting calendar.htm and calendar folder into your iDisk's Sites folder. If you leave these items at the root level of your iDisk, you and your pals can access it at: <http://homepage.mac.com/yourmembername/calendar.htm> (where yourmembername is, well, your member name). If you place them in their own folder (subdirectory), be sure to provide the full path to it – such as: <http://homepage.mac.com/yourmembername/personal/reallypersonal/calendar.htm>

Freedom of speech: make OS X talk to you

TIP Having your Mac read text documents aloud is a great proofreading tool – you're more likely to notice mistakes when you hear them. The Services command in OS X's Finder menu offers a Speech command from which you can choose Start Speaking Text, but this service works only in applications such as Apple's TextEdit, Safari, and Mail.

If you're using Microsoft Word, the service is unavailable. Although you could copy and paste your Word document into TextEdit, there's a simple way to hear your text within its original application.

Open the Speech preference pane, click on the Spoken User Interface tab, and enable the Selected text when the key is pressed option. Click on Change Key, and enter a keyboard command for activating text-to-speech (choose a key combination your applications don't use).

Once you've set this up, you can select the text in any application and press your keyboard command to hear the text read aloud. Press the keyboard command again to stop it.

Garrick Chow



Colourful character

Q I'd like a quick way to make some parts of my Photoshop image greyscale, while leaving others in colour – but I don't want to mess with channels or selections. Is there a quick-&-dirty way to do it?

Kelly Hensler

A Yep. If you select the Brush tool, go to the Mode pop-up menu, and choose Color from the list, you'll be able to 'paint' in grey over your image – experiment with different brushes (soft and hard) and opacities for vignette.



You have the power

TIP In the past I've mentioned that you get greater play time from an iPod if you turn off backlighting, play tunes smaller than 9MB, run the iPod at room temperature (or, at least, not under 50°F), keep your hands off the Forward and Back buttons, and turn off EQ and Sound Check.

With the release of Belkin's Voice Recorder for



iPod (reviewed Expo Issue 2003), there's one more way for you to keep from unduly draining your iPod – when recording voice, switch off recording when you're done rather than pausing the recording.

When you pause a voice recording, the hard drive continues to spin, thus draining the battery. When you stop recording and exit the recording screen, the hard drive takes a break.

XPress 6 file-open fillip

TIP When I upgraded to QuarkXPress 6, I, like many others, found I was unable to open many files saved by older versions. Quark proposed installing a virtual printer, but that didn't work for many people.

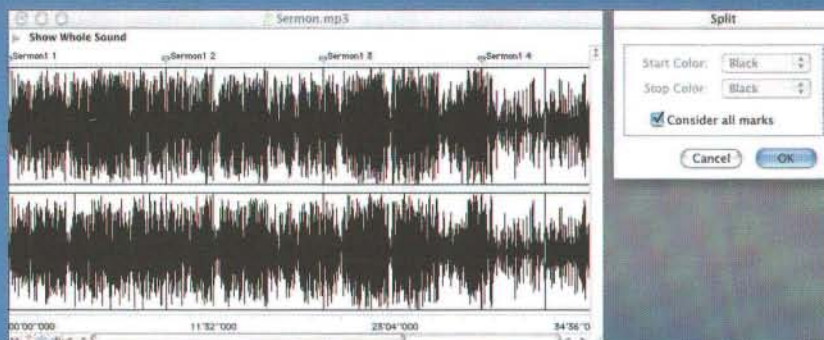
Go on, my son

Experimenting with Photoshop's blending modes can often give the results you want without the need to go wading through dialog boxes.

Inserting breaks in continuous audio streams

Q We record the ministers in our church and then transfer the resulting audio files to a Mac, so we can make CD copies for members. We'd like to insert a break in the audio every ten minutes, so members can choose a point at which to start listening. Is there a program that inserts such breaks automatically?

Stan Remel



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[illegible]

I have found that the problem lies with the Printer Styles option. In your earlier version of Quark, you may first need to go to Edit: Print Styles and then edit the Default option using the Set-up tab and apply a generic printer. Then click OK.

After that, you'll need to open each problem file using the earlier version of Quark, select Print, and then go to the Setup tab and check that the correct Generic Printer is still there, then use the capture settings option.

There is no need to print anything, just save the file again. You should then be able to open all files saved in this way using XPress 6.

Derek Lee

Peek-a-boo

TIP Press the key on the little folder icon in a Finder window to display that folder's location on your Mac.

v Big vCards

TIP Most people realize that you can move vCards out of Address Book by selecting contacts and dragging them to the Desktop. What some overlook, however, is that it isn't necessary to create one vCard per contact. Address Book also allows you to create a vCard that holds multiple contacts. There are a couple of ways to go about this.

The first is to create a group, move the contacts you want to appear in the vCard into that group, and then drag that group to the Desktop.

The second is to select your contacts and choose **Export vCards** from the **File** menu. This creates a single vCard file that includes the contacts you've selected. You can use a similar command with groups. Just select more than one group and choose **Export Group vCard** from the **File** menu to create a single vCard that holds all the contacts in the selected groups.

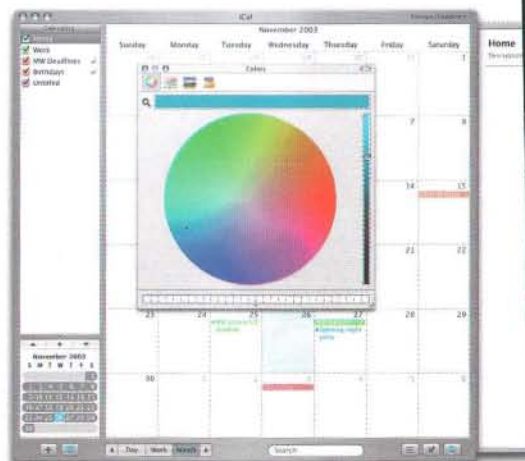
iCal category colours

Q I haven't found a way to create categories in iCal. The only thing I have come up with is to create a different calendar for each category. iCal then assigns colours to the calendars but I don't know how to assign the colour I want to the various calendars. Is it possible?

Joe Forbes

A Sure. If you don't have the latest version of iCal, download it from www.apple.com/ical. Once you have, here's how to go about assigning a custom colours to a calendar:

1. Create a new calendar by clicking the + icon at the bottom of the Calendars column.
2. If the Info drawer isn't showing, select Show Info from the Window menu (⌘-I).
3. In the drawer that appears, click the colour bar that appears in the upper right corner of the drawer and select Custom from the pop-up menu.
4. In the resulting Colors palette (below), pick a colour that pleases you and close the palette.



Macworld Buyers' Guide

Apple divides its Macs into consumer and professional, and desktop and portable. But just because you fancy an iMac, don't rule out a portable – you might be surprised how much a PowerBook or iBook suits you. And some users may require a "pro" machine even if they class themselves as a "consumer". Decide what it is you want to do, and follow our advice here.

Desktop or portable

If you're often on the move, consider an iBook or PowerBook. You can easily hook each up to a larger monitor and separate mouse on a desk when you're back at base. They're easy to hide away, and with AirPort wireless networking, you can access the Internet up to 150 feet away from your telephone connection.

Apple's portables come loaded with every high-tech port needed, unlike most Windows laptops. The iBook is ultra-small, lightweight and, importantly for students, relatively impact-resistant – and even its 12-inch screen is still sizeable. The pro PowerBook G4 is super-thin and lightweight, and boasts screens from 12 to 17 inches. Its set of ports, including S-Video and Gigabit Ethernet, is impressive – as is its DVD-R SuperDrive.

Performance

Gauging speed by processor megahertz ratings is the easy – but incorrect – way to judge performance. You must take into account the amount of memory, the size and speed of the hard disk, graphics card and video memory, and size of cache.

Apple now uses two PowerPC processors: the **G4** and **G5**. Both include AltiVec technology that makes specially optimized software run even faster. The full potential of the G5 will be realized when software – and especially the operating system – is optimized for its 64-bit architecture. Currently, nearly all software runs at the G4's 32-bit level. That said, the G5 is still faster – but not enough to disregard the speedy G4, which has plenty of life left in it yet.

Word-processing, spreadsheets, email and Web browsing don't require the very fastest processors, but digital photography, video, and graphics do.

The more memory (**RAM**) you have on your Mac, the faster your applications will run, and you'll be able to keep more programs open at the same time. We recommend you upgrade the memory to at least 512MB of RAM.

Fitting extra RAM to a Mac is easy, but get your reseller to fit it if you're nervous. Depending on which model you buy, an extra 256MB can cost as little as £35 online (try www.crucial.com/uk), and adding 512MB more will set you back about £100. RAM for portables often costs more.

Cache is a memory subsystem that stores frequently used RAM data for even faster processing access. It's necessary because most computers suffer from performance bottlenecks that slow data down as it travels around the system. The Power Mac G5 features super-fast interconnects, and so requires less cache – the data speeds around fast enough without it.

Most consumers won't get near filling their **hard disk** with their AppleWorks files, digital snaps and Web downloads. Video-editors and iTunes users, however, will require a larger disk. Get as many gigabytes as possible. You can't upgrade the hard drives in the iBook, PowerBook, iMac or eMac, but you can add inexpensive external FireWire disks.

A **video card** connects a Mac to its display. Serious gamers and creative professionals should aim for one of the ATI Radeon or NVIDIA GeForce4 cards found in Power Macs, with 64MB of video RAM onboard. You can't later upgrade the video card in any of the other systems – but this shouldn't matter for many users.

Features

Apple differentiates its Mac models by type of optical drive: CD or DVD. All Macs come with at least a combination **DVD-ROM/CD-RW** drive that can read and writes CDs, and can play DVDs and DVD movies. The **DVD-R SuperDrive** does all that, and writes DVDs (DVD-R) of iMovies and digital snaps that play in domestic DVD players. The desktop Macs' SuperDrive writes to DVD at 4x-speed; the PowerBook's at 1x-speed.

All Macs come with top-of-the-range connectivity features. Networking is at least 10/100BaseT **Ethernet**, with 1,000BaseT for Power Macs and the 15-inch and 17-inch PowerBooks.

All Macs offer at least two **USB ports** for peripherals, and at least one FireWire 400 (400Mbps) for digital video and peripherals. All now boast 480Mbps USB 2.0, except the eMac's older 12Mbps USB 1.1. USB 2.0 is compatible with USB 1.1 devices. The eMac's FireWire port makes the lack of USB 2.0 relatively meaningless. The 15-inch and 17-inch PowerBooks and Power Mac G5 include a FireWire 800 port (800Mbps).

All Macs ship with an internal 56Kbps modem. If you're frequently connected to the Internet for long periods of time (especially in peak weekday times), you'll probably save call charges by upgrading to a faster **ADSL** broadband connection. You'll need to add an ADSL modem or router, and pay an ISP from around £23 a month for the faster access – but you pay no call charges no matter how long a Mac is connected, and you can use the phone at the same time. Unfortunately, not all areas are ADSL ready – check your phone number at: www.bt.com/broadband.

Apple's **AirPort** wireless-networking technology – based on either the IEEE 802.11b or 802.11g industry standards – lets you browse the Internet from anywhere in your home, up to 150 feet away from your phone line or Ethernet connection. AirPort uses radio waves, so it even works through walls. The latest Macs use **AirPort Extreme** (802.11g), boasting 54Mbps speeds, compared to the older AirPort's 11Mbps.

All Apple's new Macs come with the top-quality **iLife** suite of integrated digital-lifestyle software. **iMovie** is a simple but powerful digital-video editor



that works with FireWire. **iTunes** is music "jukebox" software that can manage MP3 and AAC files, and burn audio CDs. **iPhoto** is a superb program that helps import, edit, organize and share digital photos. DVD-R SuperDrive models come with **iDVD**, which makes creating DVDs a doddle. Some Macs also ship with **AppleWorks** – a suite of easy-to-use business programs. The consumer Macs also ship with reference CDs and games.

Apple charges £69 per year for its online-based iTools, now called **.Mac**. You get an email address, 100MB of free Web space, simple Web-site templates, backup and virus protection.

Apple and its partners have made great efforts to ensure that Macs are largely **compatible with Windows PCs**. USB and FireWire help on connectivity. Emulation programs such as Virtual PC can run Windows software straight from a Mac.

Key applications, such as Microsoft Office, Adobe Photoshop and Macromedia Dreamweaver are all fully compatible with their Windows counterparts. You can swap Word, Excel and PowerPoint documents between the platforms.

Education pricing

Apple offers special pricing for educational users. Institutions such as schools and colleges get the biggest discounts. Teachers and students get about a 9 per cent discount via the online Apple Store – click on Education.

MW

continues page 296



The **PowerPC G5** processor is a super-fast, next-generation 64-bit chip from IBM. If blistering performance at the bleeding edge is what you need, a Power Mac G5 is a must.



The **PowerPC G4** processor from Motorola drives the Power Mac G4, PowerBook, iMac and eMac. It is specially optimized to speed-up selected programs via AltiVec technology.



UPDATED 22/10/03



The main selling points of the **iBook** are its compact, lightweight, impact-resistant case and low price. Its processor has recently been upgraded to a G4, which makes it a very capable OS X machine.

The 256MB RAM is fine for OS X and a couple of programs, but performance will be boosted greatly by adding as much as you can. Via the Apple Store, the maximum 640MB of RAM will cost £120; via an online reseller, as little as £90.

The iBook ships with iMovie, iTunes and iPhoto, as well as the World Book encyclopedia and a couple of games. Word-processing, database, spreadsheet, presentations and graphics tools are provided by AppleWorks.

S-Video and composite video output require a £15 Apple Video Adaptor. Video mirroring to a projector or monitor is via the Apple VGA Display Adaptor.

Pros: Small enough to slip into a backpack, tough enough for schoolkids, the iBook is a more than capable and affordable consumer portable.
Cons: Requires more RAM. Ask for a larger hard-drive in the 12.1-inch model if you're an iTunes or iMovie user. The 14.1-inch model has a larger viewing area, but no more pixels and is half a kilo heavier.

All iBooks:

Video card: 32MB ATI Mobility Radeon 9200. **Resolution:** 1,024-x-768 pixels

Memory: 256MB (Max: 640MB)

Cache: 256K L2

USB 2.0: 2 **FireWire 400:** 1

Ethernet: 10/100BaseT **AirPort:** 54Mbps

■ Entry-level 12.1-inch TFT:

Processor: 800MHz G4

Hard disk: 30GB

Optical: DVD-ROM/CD-RW

Weight: 2.2kg **Price:** £849

Star Rating: ★★★★★/8.4

■ Entry-level 14.1-inch TFT:

Processor: 933MHz G4

Hard disk: 40GB

Optical: DVD-ROM/CD-RW

Weight: 2.2kg **Price:** £999

Star Rating: ★★★★★/8.4

■ High-end 14.1-inch TFT:

Processor: 1GHz G4

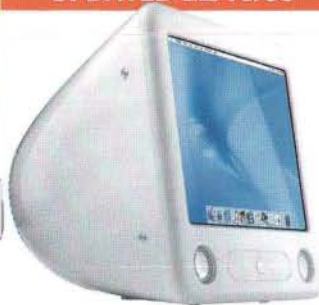
Hard disk: 60GB

Optical: DVD-ROM/CD-RW

Weight: 2.2kg **Price:** £1,199

Star Rating: ★★★★★/7.8

UPDATED 22/10/03



For the consumer/education market, the **eMac** offers a fast G4 processor, large CRT screen (with surprisingly small footprint), multiple optical-drive options, and superb pricing. It measures up well against the iMac. Its built-in 17-inch CRT display offers more screen-space at larger resolutions than the 15-inch LCD iMac. It costs a lot less than the top-end 17-inch iMac. Many will be swayed, however, by the iMac's LCD screen (think long and hard about screen size) and flexibility.

It's fast enough for consumer and educational tasks (Web, email, word-processing, accounts, digital photography, iTunes, etc), and capable of running even pro applications such as Adobe Photoshop.

Add more RAM; at least 512MB is recommended. Via the Apple Store, this will cost up to £120; online, it can be found for £60. A tilt-swivel stand for the eMac costs £49.

The eMac ships with the Apple programs (iMovie, iTunes, iPhoto; and iDVD on the SuperDrive model), as well as the World Book encyclopedia, and Deimos Rising game. Word-processing, spreadsheet, database, presentations and graphics tools are provided by AppleWorks.

Pros: Top features at attractive prices. Impressive screen resolution.

Cons: Requires more RAM. USB 1.1 rather than much faster USB 2.0, but FireWire makes up for this. Not as flexible as iMac. Limited internal expandability (extra RAM and AirPort Card only), although external alternatives are plentiful.

All eMacs:

Processor: 1GHz G4

Screen: 17-inch CRT (1,280-x-960 pixels)

Video card: 32MB ATI Radeon 7500

Cache: 256K L2

USB 1.1: 3 **FireWire 400:** 2 **PCI:** 0

Ethernet: 10/100BaseT **AirPort:** 54Mbps

■ Entry-level:

Memory: 128MB (Max: 1GB)

Hard disk: 40GB

Optical: DVD-ROM/CD-RW

Price: £649

Star Rating: ★★★★★/8.8

■ High-end:

Memory: 256MB (Max: 1GB)

Hard disk: 80GB

Optical: DVD-R SuperDrive (4x)

Price: £849

Star Rating: ★★★★★/9.2

UPDATED 08/09/03



The **iMac** boasts a "floating" flat-panel LCD screen that is held by a flexible chrome-pipe neck, allowing you to move it up and down and from side to side to gain a more comfortable viewing experience. LCD screens aren't just kinder to the neck, they're also easier on the eye than CRTs.

While the 15-inch LCD doesn't offer as large a viewing area as the eMac's, the widescreen 17- and 20-inch LCDs are particularly handy for multi-palettred pro applications. Inevitably, the LCD screens make the iMac more expensive than the CRT-based eMac – but offer compelling reasons for the extra outlay. The dome-like base also saves valuable desk space.

The iMacs ship with the great Apple programs (iMovie, iTunes, iPhoto; and iDVD on the SuperDrive model), encyclopedia, games, and AppleWorks.

Pros: Nothing beats the iMac on looks, and the adjustable LCD screen is a real improvement on the static CRT – although the eMac's maximum resolution is greater than the 15-inch G4 iMac's.

Cons: Like the eMac, the G4 iMac has limited internal expandability (extra RAM and AirPort Card only), although inexpensive external alternatives are plentiful.

All G4 iMacs: **Ethernet:** 10/100BaseT

USB 2.0: 3 **FireWire 400:** 2 **PCI:** 0

Hard disk: 80GB **AirPort:** 54Mbps

RAM: 256MB (Max: 1GB) **Cache:** 256K L2

Apple Pro Speakers: Included.

■ 15-inch:

Processor: 1GHz G4

Optical: DVD-ROM/CD-RW

Screen: 15-inch LCD (1,024-x-768 pixels)

Video card: 32MB NVidia GeForce4 MX

Price: £999

Star Rating: ★★★★★/8.4

■ Widescreen 17-inch:

Processor: 1.25GHz G4

Optical: DVD-R SuperDrive (4x)

Screen: 17-inch LCD (1,440-x-900 pixels)

Video card: 64MB GeForce FX 5200 Ultra

Price: £1,449

Star Rating: ★★★★★/8.6

■ Widescreen 20-inch:

Processor: 1.25GHz G4

Optical: DVD-R SuperDrive (4x)

Screen: 20-inch LCD (1,680-x-1,050 pixels)

Video card: 64MB GeForce FX 5200 Ultra

Price: £1,749

Star Rating: ★★★★★/8.7

UPDATED 08/10/03



Despite the arrival of the Power Mac G5, Apple is still selling the minitower **Power Mac G4**. Prices are reasonable, but you don't get the ultimate in performance.

Power users should seriously consider saving for the Power Mac G5, which is far more advanced and potentially a lot more powerful.

The stop-gap Power Mac G4 range offers older specs than those available previously. There's no FireWire 800, USB 2.0, or AirPort Extreme/Bluetooth built in.

But it does offer something that the G5 doesn't: the ability to boot in Mac OS 9. This may interest musicians and designers who are still waiting for OS X-compatible plug-ins. This is the only reason to consider the Power Mac G4 these days.

Pros: The entry-level model is an inexpensive pro-tower that offers OS 9 bootability – still important to some users.

The dual-processor machines are well-priced for OS X-fearing power users.

Cons: Uses older specifications than previous G4s; superseded by G5.

All G4 Power Macs:

USB 1.1: 2 **PCI:** 4

FireWire 400: 2

System Bus: 167MHz

Ethernet: 10/100/1000BaseT

AirPort: 11Mbps

■ Entry-level:

Processors: 1 x 1.25GHz G4

Memory: 256MB DDR (Max: 2GB)

Disk: 80GB **Cache:** 1MB L3

Optical: DVD-ROM/CD-RW

Video card: 64MB ATI Radeon 9000 Pro

Price: £999

Star Rating: ★★★★★/7.4

■ Mid-range:

Processors: 2 x 1.25GHz G4

Memory: 256MB DDR (Max: 2GB)

Disk: 80GB **Cache:** 2MB L3 per chip

Optical: DVD-ROM/CD-RW

Video card: 64MB ATI Radeon 9000 Pro

Price: £1,239

Star Rating: ★★★★★/7.5

■ High-end:

Processors: 2 x 1.25GHz G4

Memory: 512MB DDR (Max: 2GB)

Disk: 80GB **Cache:** 2MB L3 per chip

Optical: DVD-R SuperDrive (4x)

Video card: 64MB ATI Radeon 9000 Pro

Price: £1,489

Star Rating: ★★★★★/7.5

POWERBOOKS UPDATED 16/09/03



Its lightweight case and speedy processor make the **PowerBook G4** a genuine alternative to the desktop Power Mac. There are two compact 12.1-inch screen models, two 15.2-inch widescreen, and one large 17-inch widescreen. All now feature the lightweight anodized-aluminium case.

G4 processor speeds start at 1GHz – easily fast enough for pro applications, and the video cards boast up to 64MB of video RAM. Each size has a slot-loading DVD-R SuperDrive model – although this runs slower than that in desktop models.

If you fancy the iBook for its compact size and light weight, but demand more power, the **12-inch PowerBook** is a great choice if you're frequently on the move. Digital video-out is via a mini-DVI port. Connect to an external Apple LCD display with a £75 DVI-to-ADC adaptor. It lacks fastest Gigabit Ethernet – although this won't bother many.

Mobile computers are all about compromise (size against performance and features), and the middle model will appeal to those who can take a little extra weight for the extra screen space. Now that the **15-inch** model is in the aluminium case, with AirPort Extreme and FireWire 800, it is the pick of the range.

The **17-inch PowerBook** boasts the largest laptop screen on earth, and will appeal to video or music pros, who regularly need to take their computers on the road. Size isn't really an issue when travelling, but frequent laptop luggers will be put off by its weight – although it's reasonable for such a large-screen laptop.

All models support dual-screen display using external monitors.

Pros: Lightweight, slim and stylish, there's a PowerBook G4 model for everyone: from compact to giant; USB 2.0 on all models; 1.25GHz 15-inch and 17-inch include backlit keyboard.

Cons: 12-inch has no FireWire 800; 17-inch shows its size by weight.

Both 12.1-inch PowerBooks:

Processor: 1GHz G4 **AirPort:** 54Mbps
Memory: 256MB (Max: 1.25GB)
Cache: 512K L2 **Hard disk:** 40GB
Video card: 32MB NVidia GeForceFX 5200
Resolution: 1,024-x-768 pixels

USB 2: 2 **FireWire 400:** 1 **Weight:** 2.1kg
Ethernet: 10/100BaseT **S-Video:** 1

■ DVD-ROM/CD-RW **Price:** £1,299

Star Rating: ★★★★★/8.4

■ DVD-R SuperDrive (1x) **Price:** £1,449

Star Rating: ★★★★★/8.6

Both 15.2-inch PowerBooks:

Cache: 512K L2 **Weight:** 2.49kg
Resolution: 1,280-x-854 **AirPort:** 54Mbps
USB 2.0: 2 **FireWire 400:** 1
PC Card: 1 **FireWire 800:** 1
Ethernet: 10/100/1000BaseT **S-Video:** 1

Video card: 64MB ATI Radeon 9600

■ DVD-ROM/CD-RW 15.2-inch:

Processor: 1GHz G4 **Hard disk:** 60GB
Memory: 256MB (Max: 2GB)

Price: £1,599 **Star Rating:** ★★★★★/9.0

■ DVD-R SuperDrive (1x) 15.2-inch:

Processor: 1.25GHz G4 **Hard disk:** 80GB
Memory: 512GB (Max: 2GB)

Price: £1,999

Star Rating: ★★★★★/9.0

■ DVD-R SuperDrive 17-inch:

Processor: 1.33GHz G4
AirPort: 54Mbps
Memory: 512MB (Max: 1GB) **PC Card:** 1
Cache: 512K L2 **Hard disk:** 80GB
USB 2: 2 **FireWire 400:** 1 **FireWire 800:** 1
Ethernet: 10/100/1000BaseT **S-Video:** 1
Video card: 64MB ATI Radeon 9600
Resolution: 1,440-x-900 pixels
Optical: DVD-R SuperDrive (1x)
Weight: 3.08kg
Price: £2,399

Star Rating: ★★★★★/9.0

UPDATED 18/11/03

The **Power Mac G5** is the spearhead of Apple's attack on the PC workstation market – packed with next-generation technologies, and running IBM's extremely powerful 64-bit G5 processor.

Its phenomenal power isn't just down to the processor. Performance bottlenecks are eliminated by an industry-best frontside bus running at up to 1GHz, and HyperTransport interconnects.

Hard drives are Serial ATA, supporting 1.5Gbps throughput per channel.

All this speed generates a lot of heat, and Apple has created a smart cooling system with up to nine fans and four thermal zones. As fans can slow down depending on the operation in progress, sound levels are reduced, making the Power Mac G5 much quieter than the G4. The addition of USB 2.0 ports means that the Power Mac G5 can support many peripherals previously pegged back at slower USB 1.1 speeds.

The top Power Macs feature two G5 chips – making it the perfect machine for multiprocessor-optimized applications such as Adobe Photoshop and Final Cut.

The ability to add up to 8GB of super-fast DDR RAM is another plus for OS X users – particularly for creative professionals.

As a pro system, it ships with Gigabit Ethernet for faster networking



– although you'll have to upgrade your LAN's switches to get all the benefits.

The case is well designed for easy access and quick upgradability. It's even easier to fit RAM and drives than in the Power Mac G4 – you don't need any tools; everything slides and clicks into place with ease.

The Power Mac ships with the Apple iLife programs (iMovie, iTunes, iPhoto; and iDVD).

Pros: Super-fast; next-generation technologies; up to 8GB RAM; DVD-R SuperDrive; digital audio; quiet.
Cons: No good if you want to boot in Mac OS 9, but Classic works fine.

All G5 Power Macs: **USB 2.0:** 2 **FireWire 400:** 2 **FireWire 800:** 1 **AGP 8X Pro:** 1
Ethernet: 10/100/1000BaseT **AirPort:** 54Mbps

■ Entry-level:

Processors: 1 x 1.6GHz G5
Frontside Bus: 800MHz
Memory: 256MB DDR (Max: 4GB)
Hard disk: 80GB Serial ATA
Optical: DVD-R SuperDrive (4x)
PCI: 3 x 33MHz
Video card: 64MB GeForce FX 5200 Ultra
Price: £1,399
Star Rating: ★★★★★/8.5

■ Mid-range:

Processors: 2 x 1.8GHz G5
Frontside Bus: 900MHz
Memory: 512MB DDR (Max: 8GB)
Hard disk: 160GB Serial ATA

Optical: DVD-R SuperDrive (4x)

PCI-X: 1 x 133MHz; 2 x 100MHz
Video card: 64MB GeForce FX 5200 Ultra
Price: £1,899
Star Rating: ★★★★★/9.0

■ High-end:

Processors: 2 x 2GHz G5
Frontside Bus: 1GHz
Memory: 512MB DDR (Max: 8GB)
Hard disk: 160GB Serial ATA
Optical: DVD-R SuperDrive (4x)
PCI-X: 1 x 133MHz; 2 x 100MHz
Video card: 64MB ATI Radeon 9600 Pro
Price: £2,299
Star Rating: ★★★★★/9.0





Macworld's Star Ratings section lets you compare Macintosh products by providing summaries of Macworld's authoritative hardware product reviews from the past year. It includes detailed buying advice for each product category and a fuller description of our Editors' Choice winners. Alongside the list of Macworld Star Ratings are handy tips and further product buying advice. Star Ratings for Mac systems are published in the Mac Systems Guide – see earlier. Subscribers can go to www.macworld.co.uk to explore our comparative feature round-ups and reviews for both software and hardware. Listings tell you which back-issue, or online archive, to search.

What the scores mean The number of stars indicates the product's level of quality; each product also gets a numeric score that provides a more exact assessment of the product's quality within that level. We evaluate seven factors to derive the star rating: feature set; design implementation; performance; reliability; ease of use; innovation; and value. We take these evaluations, weight their importance for each product class, and calculate the final score.

REAL PRODUCTS REAL RATINGS

★★★★★	9.0 to 10.0	Outstanding
★★★★	7.0 to 8.9	Very good
★★★	5.0 to 6.9	Good
★★	3.0 to 4.9	Flawed
★	0.0 to 2.9	Unacceptable



Macs are used in most recording studios because a Mac's PowerPC processor is more efficient than Intel chips running at the same speed, so it can handle extra channels and signal processing, or both simultaneously. While digital-audio plays digitized recordings, making demands of your disk-drive and system bus, MIDI (Musical Instrument Digital Interface) behaves more like a word processor – with file sizes to match.



If you're still linking Macs with 10BaseT Ethernet, move to the faster 100BaseT, available on all current Macs. The latest Power Macs and PowerBooks come with 1000BaseT (Gigabit) Ethernet, which is even faster than 100BaseT.

Apple's AirPort Extreme is a fast wireless-networking technology. Add a £59 (2.0) or £79 (Extreme) card, and you can network and browse the Web cablelessly up to 150ft away from your £149 or £189 Base Station. AirPort works with all current Macs, and is now a viable alternative to wire-based networking. If you can, upgrade your Internet connection to broadband, via ADSL, cable or satellite. You'll need either an ADSL router (recommended) or a special modem. Add extra peripherals Macs with a USB or FireWire hub.



It's a snap to load digital photos into a Mac. With iPhoto, digital photography moves to an even higher level. Resolution of digital cameras is measured in horizontal and vertical pixels: 1,024-x-768, etc. High-resolution images show a greater level of detail – and can be more readily enlarged – than images with fewer pixels. Manufacturers also list resolution in terms of the total number of pixels. For example, 1,280 horizontal by 960 vertical pixels create a total of 1.2 million pixels (1,280-x-960 = 1.2 megapixels).

Any camera with an aggregate resolution of over 1 million pixels is referred to as a megapixel camera. If you plan to use images on the Web, you can get by



AUDIO / MUSIC

★★★★★/7.0	AV320, Archos, 01264 366 022, £560 (inc. VAT). Audio and video in your hand. Outputs to TV, but not too easy to use.	Nov 2003
★★★★★/8.5	iPod 10GB, Apple, £249 (inc. VAT). Apple's MP3 super-slim player holds 2,500 tunes with solid-state controls.	Nov 2003
★★★★★/9.0	iPod 20GB, Apple, £299 (inc. VAT). Super-slim player holds 5,000 tunes, has solid-state controls, and dock.	Nov 2003
★★★★★/9.2	iPod 40GB, Apple, £399 (inc. VAT). Super-slim player holds 10,000 tunes, has solid-state controls, and dock.	Nov 2003
★★★★★/8.8	JBL Creature, Harman @ Computers Unlimited, 020 8200 8282, £99. Speakers look great, but the sound quality could be better.	March 2003
★★★★★/9.2	Mbox for OS X, Digidesign, 01753 653 322, £379. Records, edits and mixes multiple tracks, but needs free USB port on Mac.	March 2003
★★★★★/7.5	Podio, MacAlly, 01392 426 473, £17.57 (inc. VAT). White iPod earbuds with tangle-free retractable cable.	Oct 2003
★★★★★/7.7	Podio Pro, MacAlly, 01392 426 473, £58.69 (inc. VAT). White iPod headphones with noise-cancelling feature, and flight adaptor.	Oct 2003
★★★★★/9.0	PowerWave, Griffin @ AM Micro, 01392 426 473, £99 (inc. VAT). Excellent-quality audio and includes software.	March 2003
★★★★★/8.7	SlimMP3, Slim Devices @ Multitask Computing, 01322 380 023, £209 (inc. VAT). Stylish wireless functionality, MP3 streamer.	March 2003
★★★★/6.6	Voice Recorder, Belkin, 08000 2235 5460, £39 (inc. VAT). Nifty microphone for dock-enabled iPods.	Expo 2003



CONNECTIVITY / NETWORKING

Servers, routers, software, remote access, SCSI cards, emulators, hubs, adaptors...

★★★★★/8.8	AMX-64, ADSL Nation, 01865 761 114, £99 (inc. VAT). Affordable 4-port ADSL router that's easy to set-up.	Expo 2002
★★★★★/8.5	Cayman 3341, Netopia, 020 8358 5858, £99 (inc. VAT). Affordable 2-port ADSL router that's easy to set-up.	Sept 2003
★★★★★/7.5	Cayman 3346, Netopia, 020 8358 5858, £151 (inc. VAT). 4-port ADSL router that's easy to set-up, but expensive.	Sept 2003
★★★★★/8.8	DG814, Netgear, 020 7216 0014, £95 (inc. VAT). 4-port ADSL router that's easy to set-up.	Expo 2002
★★★★★/8.5	GSW-8, Corega, 08705 168 626, £115 (inc. VAT). 8-port Gigabit Ethernet switch.	Sept 2003
★★★★★/8.0	NetShuttle DSL, Hermetdt, 020 7421 1500, £199 (inc. VAT). 1-port ADSL router is easy to set-up.	Expo 2002
★★★★★/7.4	Prestige 645R, 0118 981 0600, £170 (inc. VAT). ADSL router scores well on security, and design, but set-up is Windows-centric.	Expo 2002
★★★★★/7.7	Prestige 652, 0118 981 0600, £351 (inc. VAT). ADSL router offers cast-iron security and is priced accordingly.	Expo 2002
★★★★★/7.5	SpeedTouch 510, 01295 222 170, £163 (inc. VAT). Stylish and secure ADSL router, let down by hard-to-follow set-up.	Expo 2002
★★★★★/7.5	SpeedTouch 530, 01295 222 170, £151 (inc. VAT). Same as the 510, except it has just one Ethernet port, and a USB port.	Expo 2002
★★★★★/8.8	SpeedTouch 330, Alcatel, 01295 222 170, £79 (inc. VAT). Stylish, compact ADSL modem that's Mac OS X-friendly.	Expo 2002
★★★★★/8.7	StingRay, Hermetdt, 020 8200 8282, from £2,895 (ex VAT). Cheap to run, secure and easy-to-use file-transfer solution.	Feb 2003



DIGITAL CAMERAS / CAMCORDERS / VIDEO-CON

Consumer and professional; still and video; Apple's iPhoto. All prices include VAT.

Digital-still cameras

★★★★★/8.1	007 JB1, Digital Dream, 01304 248 200, £69. Zippo-sized 0.3-megapixel gadget-camera – basic quality, but tons of fun.	Expo 2003
★★★★/6.7	Camedia C-350, Olympus, 0800 072 0070, £249. Easy to use and traditionally styled 3.2-megapixel model.	Aug 2003
★★★★/6.9	C-740 Ultra Zoom, Olympus, 020 7253 2772, £299. 3.2-megapixel unit offering excellent images, but poor documentation.	Dec 2003
★★★★★/7.4	Coolpix 3100, Nikon, 020 8481 6875, £279. A 3.2-megapixel model offering intuitive menus and manual white balance.	Aug 2003
★★★★/6.8	Cyber-shot DSC-P8, Sony, 08705 111 999, £350. Compact 3.2-megapixel camera with movie mode but no manual controls.	Aug 2003
★★★★/6.8	Cyber-shot DSC-P72, Sony, 08705 111 999, £300. Same as DSC-P8 but lacking controls over sharpness and saturation.	Aug 2003
★★★★/6.7	Cyber-shot DSC-V1, Sony, 08705 111 999, £546. Well-designed 5-megapixel model, delivers noisy shots, though.	Dec 2003
★★★★/6.8	Dimage F300, Minolta, 01908 200 400, £429. Compact 5-megapixel camera with full manual controls.	Aug 2003
★★★★/6.5	Dimage Xt, Minolta, 01908 200 400, £249. Slimline 3.2-megapixel unit with easy-to-use movie mode.	Dec 2003
★★★★★/8.7	EOS 10D, Canon, 08705 143 723, Body-only, £1,499. Great digital SLR with well-balanced mix of features, comfort and quality.	Oct 2003
★★★★★/8.6	EOS 3000, Canon, 08705 143 723, £999. True SLR with removable lenses and low price, but no rear-mounted control-wheel.	Expo 2003
★★★★★/8.6	FinePix A303 Fujifilm, 020 7586 1477, £449. SuperCCD offers an effective resolution of six megapixels.	Sept 2003
★★★★★/7.8	FinePix F410 Zoom Fujifilm, 020 7586 1477, £299. Decent 3-megapixel entry-level with 3x zoom.	Sept 2003
★★★★★/8.5	FinePix F601 Zoom Fujifilm, 020 7586 1477, £499. SuperCCD offers an effective resolution of six megapixels; funky look.	Sept 2003
★★★★★/7.7	IXUS II, Canon, 08705 143 723, £369. Nicely designed 3.2-megapixel model with movie mode but no red-eye.	Aug 2003

★★★★/8.2	IXUS 400, Canon, 08705 143 723, £449. Compact, well designed 4-megapixel camera with movie mode but limited manual controls.	Aug 2003
★★★★/6.6	Lumix DMC-FZ1, Panasonic, 08705 357 357, £329. Stunningly fast 2-megapixel unit that unfortunately lacks full manual controls.	Dec 2003
★★★★/8.5	PowerShot A80, Canon, 08705 143 723, £349. Responsive 4-megapixel camera that boasts spanking image-quality.	Expo 2003
★★★★/8.0	PowerShot G5, Canon, 08705 143 723, £628. An excellent 5-megapixel camera with add-on lens and flash support.	Dec 2003
★★★★/8.0	PowerShot S50, Canon, 08705 143 723, £549. A 5-megapixel model with full manual controls and a movie mode.	Aug 2003
★★★★/8.6	Photosmart 735, HP, 08705 47 47 47, £199. A cheap-as-chips, no-nonsense 3.2-megapixel camera with 3x optical zoom.	Nov 2003
Consumer digital camcorders		
★★★★/8.0	DM-MV5i, Canon, 0800 616 8883, £850. This camcorder has good specs, but is £50-£100 more than equally specced models.	March 2003
★★★★/8.5	DM-MX2i, Canon, 0800 616 8883, £1,149. With optical stabilization, this camcorder delivers crisp pictures – at a price.	March 2003
★★★★/7.5	DS60 DV Camcorder, Panasonic, 08705 357 357, £449. Budget model offering decent quality for the price.	Aug 2003
★★★★/9.0	DVX100, Panasonic Broadcast, 08700 100 464, £3,195. Film-style aesthetics without the Hollywood budget.	Nov 2003
★★★★/8.0	GR-D70, JVC, 0870 300 5000, £600. Low-price palmcorder that offers DV-in and -out, and excellent image-quality.	Aug 2003
★★★★/8.5	GR-DV700, JVC, 0870 300 5000, £750. Midrange, easy-to-use 1.33-megapixel camcorder. Excellent for the price.	Aug 2003
★★★★/6.5	GR-PD1, JVC, 0870 300 5000, £2,500. High Definition camcorder with 16:9 mode and MPEG-2 recording. Little Mac support.	Expo 2003
★★★★/8.6	iSight, Apple, £119. Idiot-proof, portable webcam that ties in well with iChat AV.	Sept 2003
★★★★/8.7	MX150i, Canon, 08705 143 723, £899. This camcorder offers great image quality, 16x zoom and impressive features.	Sept 2003
★★★★/8.3	NV-GS5, Panasonic, 0870 357 357, £850. With a decent resolution and variable-speed zoom, the GS5 only lacks a stills mode.	March 2003
★★★★/8.6	NV-GX7, Panasonic, 0870 357 357, £1,500. Excellent image quality, a stills mode and night shooting.	March 2003
★★★★/8.7	DCR-PC8, Sony, 020 7365 2947, £549. Great little camcorder that's a joy to use; requires FireWire cable.	Sept 2003
★★★★/8.3	VP-D130, Samsung, 0800 521 652, £700. This cheap camcorder is for those who want to keep it simple.	March 2003



DISPLAY

Monitors, projectors and video cards.

17-inch flat-panel LCD displays

★★★★/8.8	17-inch Studio Display, Apple, 0800 039 1010, £549 (inc VAT). Apple's 1,280-x-1,024-pixel screen is big as well as beautiful.	July 2002
★★★★/7.7	C783, Microtek, 01372 844 880, £553. Good-value if-dull flat-panel offering built-in speakers.	July 2002
★★★★/8.8	Gallery 1740, Formac, 020 8533 4040, from £528 (inc VAT). Great-looking 17.4-inch 1,280-x-1,024-pixel ADC monitor.	July 2002
★★★★/7.7	SyncMaster 171S, Samsung, 0800 521 652, £489. Compact, lightweight LCD screen that's nicely styled.	July 2002

18-inch flat-panel LCD displays

★★★★/7.7	FlexScan L685-EX, Eizo, 01483 719 500, £1,089. Compact 18.1-inch 1,280-x-1,024-pixel LCD monitor.	July 2002
★★★★/8.6	MultiSync LCD 1880SX, NEC, 0801 201 160, £959. Compact, attractive 18.1-inch 1,280-x-1,024-pixel LCD monitor.	July 2002
★★★★/8.6	photon18blue, LaCie, 020 7872 8000, £899. 18-inch 1,280-x-1,024-pixel LCD screen boasting great image quality.	July 2002
★★★★/7.3	SDM-S81, Sony, 08705 111 999, £859. Attractive two-tone grey screen that suffers for lack of digital connections.	July 2002

19-22-inch flat-panel LCD displays

★★★★★/9.2	Cinema Display HD , Apple, 0800 039 1010, £1,699 (inc VAT). Editors' Choice: High-end flat-panel displays Excellent high-definition 1,920-x-1,200-pixel screen that's suitable for use with high-end digital-video editing.	March 2003
★★★★★/9.0	Cinema Display , Apple, 0800 039 1010, £1,099 (inc VAT). Apple's 20-inch screen has a 1,680-x-1,050 wide-screen resolution.	March 2003
★★★★★/9.0	Gallery 2010 , Formac, 020 8533 4040, £1,174 (inc VAT). Stylish, affordable 20.1-inch flat-panel display.	Expo 2002
★★★★★/8.5	FlexScan L767 , Eizo, 01483 719 500, £734. Affordable 19-inch LCD that comes with a digital interface.	June 2003
★★★★★/8.3	FlexScan L985-EX , Eizo, 01483 719 500, £1,561. Monster 21.3-inch LCD that's pricey, but is of undeniable quality.	June 2003
★★★★★/8.5	MultiSync LCD1920NX , NEC, 0801 201 160, £750. A good-value 19-inch LCD that offers a digital interface.	June 2003
★★★★★/8.3	MultiSync LCD2080UX , NEC, 0801 201 160, £1,048. 20.1-inch LCD that's well-priced, and includes an auto-adjust feature.	June 2003
★★★★★/8.7	P922E , CXTX, 01923 810 800, £545 (inc VAT). Inexpensive 19-inch LCD with USB 2.0 hub.	Oct 2003
★★★★★/8.6	Photon20Vision , LaCie, 020 7872 8000, £1,404. Quality 20.1-inch flat panel with calibration option, desk clamp and hood.	June 2003

21-inch+ CRT displays

★★★★★/9.0	Diamond Pro 2070SB , Mitsubishi, 020 7202 6300, £499. Editors' Choice: 21-inch+ CRT displays	
	This monitor offers top features at a great price. It can display at 2,048-x-1,536-pixels at 85Hz.	Jan 2003
★★★★/8.7	electron22blue III , LaCie, 020 7872 8000, £699. Aperture-grille offering great image quality, but the competition is catching up.	Jan 2003
★★★★/7.0	FlexScan T966 , Eizo, 01483 719 500, £659. 21-inch aperture-grille at a reasonable price.	Jan 2003
★★★★/8.3	Multiscan E520 , Sony, 08705 111 999, £769. This is a high-quality monitor, but you pay extra for the Sony brandname.	Jan 2003
★★★★/7.0	Reference Calibrator V , Barco@Typemaker, 0221 604 1234, £3,250. Pricey, but colour-accurate display is losing edge on rivals.	Jan 2003
★★★★/8.3	SM1200NF , Samsung, 0800 521 652, £489. The screen looks dated, but it's feature rich with a decent resolution.	Jan 2003
★★★★/7.7	VisionMaster Pro 513 , Iiyama, 01438 745 482, £369. A great choice if you want cheap and cheerful.	Jan 2003

Projectors

★★★★/7.6	LiteShow, InFocus, 0800 028 6470, £349. AirPort connection to the LP120 projector.	Dec 2003
★★★★/9.1	LP120, InFocus, 0800 028 6470, £1,999. Tiny, fully featured 1,100 ANSI lumen projector – the best there is.	Dec 2003

Display/TV hardware

★★★★/8.2	Eye TV, El Gato @ CU, 020 8358 5858. Easy-to-set-up method of watching television on your Mac.	May 2003
★★★★/7.1	Spyder with PhotoCal, Pantone@AM Micro, 01392 426 473. Easy to use monitor-calibration hardware.	Jan 2003



INPUT

Mice, trackballs, digital tablets... All prices include VAT.

★★★★/8.7	Desktop Navigator, Logitech, 01753 870 900, £79. Affordable, attractive wireless keyboard.	June 2003
★★★★/8.3	MX700, Logitech, 01753 870 900, £49. Cordless seven-button scroll-wheel mouse that comes with recharging cradle.	Expo 2002
★★★★/8.2	Graphire3 Studio XL, Wacom, Computers Unlimited, 020 8358 5858, £179. AS tablet with stylus and scroll-wheel mouse.	Dec 2003
★★★★/8.2	Ultra Cordless Optical Mouse, Gyration, 0870 442 8668, £79. Cordless motion-sensing mouse is ideal for presentations.	Expo 2002
★★★★/7.3	Wireless Keyboard, Apple, 0800 039 1010, £59. Bluetooth keyboard complete with 128-bit encryption.	Dec 2003

with a low-res camera. If you want to use the images in print at anything greater than postage-stamp size, at least a two-megapixel camera is a must. Look for optical resolution; ignore interpolated resolution.

Select a camera that offers the option of switching between high-res/fewer shots and lower-res/many shots. SmartMedia storage cards are cheaper but flimsier, and offer less storage than CompactFlash cards. Sony cameras use MemorySticks. Other formats include SecureDigital, Multimedia, and the tiny XD Picture card. Digital cameras tend to be battery hogs, so rechargeable batteries are a must. NiCad batteries are cheaper than NiMH batteries, but the latter last longer between charges.

Those who don't own a digital-video camcorder are missing out on one of the best reasons to own a Mac. All of Apple's Mac models, even the least-expensive iMac, have built-in FireWire ports and iMovie software, making the creation of professional-looking videos for business, home, and school projects very easy.

Most camcorders use MiniDV tapes, tiny cassettes that store 60 minutes of high-quality digital video in standard-play mode or 90 minutes in long-play mode. Sony's MicroMV digital-video format is not yet supported. Once you record video, you can upload it to a Mac via a FireWire cable and edit it using either Apple's iMovie or a higher-end program such as Apple's Final Cut Pro/Express. Add effects with Adobe After Effects.

The DV format – used by DV, MiniDV, and Digital 8 cassettes – stores video at more than twice the resolution of standard VHS or 8mm tapes, and it stores 25 per cent more information than S-VHS or Hi8 tapes. Colour fidelity and noise immunity are also markedly better on DV tapes than on analogue tapes, resulting in breathtaking video quality. And because the recorded video is digital, you can upload it to your Mac or copy it to another DV tape without any loss of quality.

Aim for a FireWire digital camcorder with both DV-In and -Out, as this means you can transfer your edited movie from your Mac back to MiniDV tape.



The first decision you'll need to make is whether



to get a flat-panel display, based on liquid crystal display (LCD) technology, or a cathode-ray tube (CRT) monitor.

CRTs are cheaper and offer higher colour vibrancy and accuracy than LCDs. If low price is your biggest requirement, or if you're looking for a display for publishing or design work, go with a CRT.

An LCD display's advantage is unparalleled sharpness and ultra-thin profile. If space considerations, or a cutting-edge look, top your list of concerns, and you can afford it, today's flat-panel displays are worth a serious look. With a flicker-free screen and tiny footprint, an LCD is easy on the eyes in more than one sense.

Today's monitors offer one or more of the following connections: VGA, DVI, or ADC. A screen hooked-up to a digital DVI or ADC connector offers sharper, clearer images than those connected via an analogue VGA connector. Analogue LCDs can display "noise", a by-product of converting the video signal from digital to analogue and then back again. The ADC (Apple Display Connector) port combines a DVI signal with power and USB. The single cable leaves your desk relatively clutter free, but ADC is available only on cards shipping in Power Mac G4s and Cubes released after August 2000.

Except for the Apple displays, most monitors can plug directly into an analogue VGA connector, making them compatible with current and older desktops and laptops. Some models offer both analogue and digital inputs. These are the most compatible, as they can plug

continues...



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into DVI or standard VGA connectors and, with a third-party adaptor, into ADC ports. The Apple displays require the ADC port available on only recent G4 and G5 desktops.

When comparing the image size of displays, be sure to check the **viewable image size**, not the claimed size of the CRT or flat-panel. The **resolution** of a monitor is expressed in horizontal and vertical pixel dimensions, and range from 640-x-480 pixels to 1,600-x-1,200 pixels and beyond. The higher the resolution, the more you will be able to see on-screen. The more inches, the larger the pixels.

A CRT's **dot pitch** measures how close adjacent phosphor dots (or stripes on aperture-grille CRTs) are to each other. In general, the smaller the dot pitch, the sharper (and more expensive) the display will be.

On CRT monitors, a low **refresh rate** – how many times your Mac sends a fresh copy of the screen image to your display – implies flicker, a major cause of eyestrain. The higher the refresh rate, the better. LCDs don't suffer from flicker at all.

High-end monitors may also come with **calibration** software and devices for ensuring accurate colour for publishing and design applications.



Input devices come in many shapes and sizes. Go for an **optical mouse**, which are less prone to wear-&-tear than the old-style mice. Apple's mouse is good, but lacks extra buttons and a scroll wheel – fantastic for zipping through documents and Web pages.

Graphics tablets are now very advanced and often come with pressure-sensitive pens, which enable more control when using natural-media graphics software like Painter. The harder you press, the thicker the line. They take some getting used to, but many artists swear by them – not at their mice!



The range of printers available is huge: fast network printers, for business, to slower-but-cheap colour printers for home.

Decide what you need from your printer, look at your budget and, most importantly, look at the **output** of the printer. The only way to avoid disappointment is to have a dealer print out a page in front of you. Remember that the test prints shown in shops are often done on expensive glossy paper.

Speed is also an issue. At home, waiting 15 minutes for a colour page to print may be acceptable. In the office, however, time is money – meaning that faster printers are needed.

Home/small office use: A4 Inkjets are the cheapest printers to buy, and can output near-photographic quality prints – great with digital cameras. If you mainly run-out black-&-white prints of letters and so forth, consider a mono laser printer (which cost from around £250).

Business use: Fast, networkable mono lasers cost from £500. Decent colour lasers will set you back at least £1,000. Design studios should consider a colour proofer – available from HP and Epson.

Multifunction devices: Companies such as HP and Lexmark offer all-in-one devices that include a printer, scanner, copier and fax. These save desk space, but aren't the best alternative at each of their functions.

Remember to find out the price of **consumables**. An inkjet can get through a cartridge in just a few months. Macworld tests for how many high-colour pages you'll get out of a cartridge, so check our product round-ups.

★★★★6.5	Wireless Mouse, Apple, 0800 039 1010, £59. Bluetooth mouse. Lacks a scroll-wheel.	Dec 2003
★★★★8.8	Wireless Optical Ice White Desktop, Microsoft, 0870 601 0100, £89. Stylish wireless keyboard with wrist rest.	June 2003



PDA's

Personal digital assistants and related third-party hardware and software.

★★★★8.0	Clie PEG-NX70V, Sony, 020 7365 2947, £527. PDA offering stereo sound, and Memory Stick and CompactFlash slots.	May 2003
★★★★7.5	Tungsten E, Palm, 0118 927 8700, £149. Affordable, no-frills PDA with SD-card slot	Expo 2003
★★★★8.7	Tungsten T3, Palm, 0118 927 8700, £329. Bluetooth-compatible PDA with big screen and multimedia capabilities.	Expo 2003
★★★★8.0	Zire, Palm, 0118 927 8700, £88. Inexpensive PDA with rechargeable batteries.	May 2003



PRINTING

Inkjets, lasers, workgroup, thermal wax, dye sublimation, solid ink and software solutions.

All-in-one printer, scanner, copiers (All prices include VAT).

★★★★8.9	PSC 1205, Hewlett-Packard, 08705 474 747, £99. Compact, affordable, relatively fast all-in-one offers good quality photos.	Sept 2003
★★★★8.9	PSC 2175, Hewlett-Packard, 08705 474 747, £169. Fast all-in-one with six-ink option for even better photo quality.	Sept 2003
★★★★6.8	Stylus CX3200, Epson, 0800 200 546, £149. All-in-one printing, scanning and faxing.	Jan 2003
★★★★7.4	x1150, Lexmark, 0870 444 0044, £79. Affordable, good-looking but very slow all-in-one.	Sept 2003
★★★★8.2	x5150, Lexmark, 0870 444 0044, £129. Affordable, good-looking but slow all-in-one.	Sept 2003

Consumer/entry-level pro (All prices include VAT).

★★★★8.0	450CBi, Hewlett-Packard, 08705 474 747, £249. Aimed at laptop owners, this printer is portable and versatile.	Jan 2003
★★★★8.3	DeskJet 5150, Hewlett-Packard, 08705 474 747, £89. A4 inkjet that excels at colour photos; optional six-colour cartridge.	Nov 2003
★★★★8.9	i450, Canon, 08705 143 723, £99. Low-price colour A4 inkjet that outputs great quality for the price.	Sept 2003
★★★★8.6	i4700, Canon, 08705 143 723, £179. A4 inkjet that outputs great quality, and includes memory-card reader.	Sept 2003
★★★★8.9	i6500, Canon, 08705 143 723, £339. Great A3+ photographic output, very fast and quiet.	Sept 2003
★★★★7.9	P706 Photo JetPrinter, Lexmark, 0870 444 0044, £69. Affordable but slow.	Sept 2003
★★★★9.0	PhotoSmart 7350, Hewlett-Packard, 08705 474 747, £199. An A4 inkjet that uses PhotoRet IV technology to great effect.	Oct 2002
★★★★8.0	S750, Canon, 08705 143 723, £159. Colour A4 inkjet offering edge-to-edge printing and impressive photo results.	Oct 2002
★★★★8.7	S900, Canon, 08705 143 723, £329. Edge-to-edge colour A4 inkjet that's fast and outputs decent colour.	Oct 2002
★★★★8.7	S6300, Canon, 08705 143 723, £379. Colour A3+ inkjet offering easy-to-achieve colour accuracy and economic ink usage.	Oct 2002
★★★★8.3	Stylus C60, Epson, 0800 200 546, £79. This entry-level 1,400dpi model is slow – but offers stunning output for your money.	Oct 2002
★★★★9.0	Stylus C42UX, Epson, 0800 200 546, £59. Slow, but offers spectacular colour quality for the price.	Oct 2002
★★★★7.7	Stylus C80, Epson, 0800 200 546, £149. Entry-level 2,800dpi model that uses pigment inks for better output on plain paper.	Oct 2002
★★★★8.3	Stylus Photo 890, Epson, 0800 200 546, £169. Quality edge-to-edge A4 colour inkjet that's also fast.	Oct 2002
★★★★8.7	Stylus Photo 895, Epson, 0800 200 546, £179. Same as the 890 but with extra features for digital photographers.	Oct 2002
★★★★8.9	Stylus Photo 830U, Epson, 0800 200 546, £99. A photo printer for £99 is a great deal – especially when output is outstanding.	July 2003
★★★★8.1	Stylus Photo 925, Epson, 0800 200 546, £249. Doesn't need a computer to print from memory cards.	Jan 2003
★★★★8.6	Stylus Photo 935, Epson, 0800 200 546, £229. Top-quality output, six-colour inks, standalone printing.	Sept 2003
★★★★9.0	Stylus Photo 950, Epson, 0800 200 546, £379. The edge-to-edge A4 950 can print on CDs, and paper rolls. Classic only.	Oct 2002
★★★★9.0	Stylus Photo 2100, Epson, 0800 200 546, £599. A3 2,880dpi seven-ink inkjet that offers flawless edge-to-edge colour output.	Oct 2002
★★★★7.6	Stylus Pro 7600, Epson, 0800 200 546, £2,814. Excellent image quality and print speed for a wide-bodied printer	Feb 2003
★★★★6.0	Z65, Lexmark, 0870 444 0044, £129. Same unattractive build as the Z55 but with an extra paper-input tray.	Oct 2002
★★★★8.2	z705 Photo JetPrinter, Lexmark, 0870 444 0044, £59. Affordable but very slow.	Sept 2003

Professional (All prices exclude VAT)

A3 colour lasers

★★★★7.1	AcuLaser C8600PS, Epson, 0800 200 546, £3,879. Slow yet high-quality graphics-oriented A3+ colour laser.	May 2003
★★★★8.8	Elite Color 16, GCC, 020 8380 6870, £1,399. Bargain-priced, duplexing high-quality colour laser printer.	Expo 2003
★★★★8.7	C752n, Lexmark, 0870 444 0044, £1,879. A4 colour laser that offers decent-quality prints at a fair speed.	Expo 2003
★★★★8.7	C9500, Oki, 0800 917 6015, £4,869. Super-fast A3 laser ideal for the most demanding office environment.	May 2003
★★★★9.1	CL30, Xanté, 0870 742 0802, £4,249. Feature-laden graphics A3 laser printer that is both speedy and well-priced.	May 2003
★★★★9.0	PlateMaker 4, Xanté, 0870 742 0802, £4,499. Complex, quality mono laser printer for producing computer-to-plate plates.	July 2003
★★★★9.0	Phaser 6250n, Xerox, 0870 241 3245, £1,609. Fast, affordable colour laser printer that offers excellent quality	Expo 2003
★★★★8.4	Phaser 7700, Xerox, 0870 241 3245, £5,520. Speedy, well-priced graphics A3 laser.	May 2003

A4 colour lasers

★★★★8.1	AcuLaser C1900PS, Epson, 0800 200 546, £1,029. Multi-pass model that does well on speed, quality and price.	May 2003
★★★★8.0	AcuLaser C4000PS, Epson, 0800 200 546, £1,749. Single-pass laser that offer great output, but at a high price.	May 2003
★★★★8.3	C750, Lexmark, 08704 440 044, £2,059. Ultra-speedy single-pass laser that's also economical on consumables.	May 2003
★★★★7.7	HL-4000CN, Brother, 0845 606 0626, £1,780. Competitively priced single-pass model.	May 2003
★★★★8.1	HP 2500, HP, 08705 474 747, £1,155. Affordable, if slow, multi-pass A4 that offers decent output.	May 2003
★★★★7.3	HP 4600, HP, 08705 474 747, £1,752. Reasonably priced single-pass A4 model.	May 2003
★★★★8.0	Magicolor 2350, Minolta-QMS, 01784 442 255, £849. High quality at a superb price, but rather slow.	May 2003
★★★★7.3	Magicolor 3100, Minolta-QMS, 01784 442 255, £1,795. A slightly overpriced single-pass laser printer that offers quality output.	May 2003
★★★★8.0	C5300n, Oki, 0800 917 6015, £1,069. Well-priced single-pass A4 laser that's both speedy and of high quality.	May 2003
★★★★8.0	C7500n, Oki, 0800 917 6015, £2,919. Speedy, feature-rich single-pass A4 laser.	May 2003
★★★★7.7	Phaser 6200n, Xerox, 0870 241 3245, £2,010. Speedy, if expensive, single-pass A4 printer.	May 2003
★★★★7.7	Phaser 8200, Xerox, 0870 241 3245, £1,610. Solid-ink single-pass A4 laser offers good quality and is also well-priced.	May 2003
★★★★8.4	AW 1200, Xanté, 0870 742 0802, £799. Inexpensive 1,200dpi mono A3+ laser printer.	Oct 2002



SCANNING

Consumer and professional scanners

Consumer/entry-level (Prices include VAT. All models USB)

★★★★/7.7	Astra 6400, Umax, 0870 906 4400, £89. FireWire 600dpi A4 scanner with decent software bundle.	Nov 2002
★★★★/8.2	CanoScan D2400UF, Canon, 08705 143 723, £219. 2,400dpi A4 scanner offering transparency adaptor.	Nov 2002
★★★★/8.0/8.1	CanoScan LiDE 20 / 30, Canon, 08705 143 723, £59, £79. Ultra-thin entry-level 600dpi and 1,200dpi A4 scanners.	Nov 2002
★★★★/8.6	IRISpen II Executive, IRIS, @ Softline 01883 745 111, £129. Cheap, accurate pen scanner that works with any application.	May 2003
★★★★/8.1	Perfection 1260, Epson, 0800 220 546, £79. Basic 1,200dpi A4 scanner offering optional £45 transparency adaptor.	Nov 2002
★★★★/8.0x	Perfection 1660 Photo, Epson, 0800 220 546, £169. 1,600dpi A4 scanner offering a decent software bundle.	Nov 2002
★★★★/8.6	Perfection 2400 Photo, Epson, 0800 220 546, £199. Capable 2,400dpi A4 scanner with built-in transparency adaptor.	Nov 2002
★★★★/9.0	ScanJet 3500c, HP, 0870 547 4747, £79. Great-value OS X-compatible 1,200dpi model.	Nov 2002
★★★★/8.7	ScanJet 3530c, HP, 0870 547 4747, £89. Same as 3500c, only offering an image-archiving function.	Nov 2002
★★★★/7.0	ScanJet 8200, HP, 0870 547 4747, £449. 4,800dpi resolution; transparency adaptor; USB 2.0. Overpriced.	Nov 2003
★★★★/6.8	ScanJet 8250, HP, 0870 547 4747, £749. 4,800dpi resolution; transparency adaptor; USB 2.0; document feeder. Expensive.	Nov 2003

Professional

★★★★/7.2	ArtixScan 1100, Microtek, 01327 844 880, £1,408. Overpriced SCSI-2, 1,000dpi, 42-bit A4 scanner.	Expo 2002
★★★★/9.0	ArtixScan 1800f, Microtek, 01327 844 880, £1,799. 1,800-x-3,600dpi A4 flatbed giving unbeatable scan quality.	July 2003
★★★★/8.3	Expression 1680 Pro, Epson, 0800 220 546, £895. Quality USB/SCSI 1,600-x-3,200dpi, 48-bit A4 scanner, but lacking FireWire.	Expo 2002
★★★★/7.9	Expression 1640XL Pro, Epson, 0800 220 546, £2,219. SCSI/USB 1,600-x-1,300dpi, 42-bit A3 model that lacks FireWire.	Expo 2002
★★★★/8.6	PowerLook 3000, Umax, 0870 906 4400, £2,799. This super-expensive A4 model also offers a super-high resolution of 3,048dpi.	Expo 2002
★★★★/8.9	PowerLook 1120, Umax, 0870 906 4400, £849. FireWire 1,200-x-2,400dpi, 42-bit A4 scanner offers great balance of features.	Expo 2002
★★★★/7.8	PowerLook 2100XL, Umax, 0870 906 4400, £999. SCSI-2, 42-bit A3 scanner offers modest resolution of 800-x-1,600dpi.	Expo 2002
★★★★/7.0	ScanJet 8290, HP, 0870 547 4747, £1,449. 4,800dpi; transparency adaptor; 25ppm document feeder; software is Windows-only.	Nov 2003
★★★★/8.8	ScanMaker 9800XL, Microtek, 01327 844 880, £1,748. FireWire/SCSI-2/USB 2.0, 1,600-x-1,300dpi, 48-bit A3 scanner.	

Film scanners (All prices include VAT)

★★★★/7.8	SmartScan 2700, SmartDisk, 01252 530 960, £189. Easy to use, inexpensive 2,700-pixel USB film scanner.	July 2003
★★★/6.7	SmartScan 3600, SmartDisk, 01252 530 960, £189. 3,600-pixel FireWire film scanner that suffers from limited dynamic range.	July 2003
★★★★/8.0	Dimage Scan Dual III, Minolta, 01908 200 400, £299. 2,820dpi film scanner offering excellent dynamic range and colour fidelity.	July 2003
★★★★/8.5	Dimage Scan Elite II, Minolta, 01908 200 400, £549. 2,820dpi FireWire film scanner with Digital ICE and GEM technologies.	July 2003



STORAGE & UPGRADES

Hard drives, CD, DVD, removable solutions, servers, and processor-upgrade cards

Servers

★★★★/8.0	Xserve, Apple, from £2,399 including VAT. Apple's easy-to-manage enterprise server is well-placed to compete with PC solutions.	Oct 2003
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Network Attached Storage

★★★★/8.5	Max, CMS, 01256 681 246, from £1,999. Fast and robust storage that's easy to use.	Jan 2003
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Hard drives

★★★★/8.2	AB3plus, CMS, 01256 681 246, from £209. Portable FireWire backup solution.	Jan 2003
★★★★/8.8	Big Disk 800, LaCie, 020 7872 8000, from £559. High-capacity FireWire 800 hard drives: 400GB (7,200rpm), 500GB (5,400rpm).	Aug 2003
★★★★/8.5	Caviar WD2000, Western Digital, @ Dabs, www.westerndigital.com, £201. Cheap, huge 200GB EIDE drive.	June 2003
★★★★/8.4	Cobra 800, EZQuest @ Channel Dynamics, 0870 607 0540, from £245. 7,200rpm FireWire 800 hard drive: 120/200/250GB.	Aug 2003
★★★★/8.5	Crossfire 120GB, SmartDisk, 01252 530 960, from £153. FireWire/USB 2.0 hard drive. Compact, good software, but not too speedy.	Expo 2003
★★★★/8.3	Desktop Hard Drive, SmartDisk, 01252 530 960, from £139. 7,200rpm FireWire hard drive: 80/120GB.	April 2003
★★★★/8.3	Fire800, WiebeTech @ Technical Earth, 020 8450 0303, from £249. Reasonably priced 120/180/240GB. FireWire 800 drives.	Aug 2003
★★★★/8.5	HDD 250, Iomega, www.iomega.co.uk, £309. Fast 250GB FireWire hard-drive. Slow with USB 2.0, though.	Expo 2003
★★★★/8.8	Ice Warrior 800, Box Clever, 01525 240 188, from £199. Affordable 120/200/250GB FireWire 800 hard drives.	Aug 2003
★★★★/8.6	One Touch 250, Maxtor, 01923 712 448, £329. Attractive FireWire-only hard drive with decent software bundle.	Expo 2003
★★★★/8.4	Personal Storage 5000, Maxtor, 01923 716 105, from £189. FireWire/USB backup solution.	Jan 2003
★★★★/8.0	PowerPlay Pro, SmartDisk, 01252 530 960, from £59. Handy collar-clip-sized 64MB USB storage and music player.	July 2003
★★★★/8.4	Rover, SmartDisk, 01252 530 960, £59. Radio-controlled USB slide-show remote-control with 32MB of storage.	July 2003
★★★★/8.5	The Kube 500GB, Box Clever @ Mac & More, 01525 240 188, from £599. 5,400rpm FireWire RAID hard drive. Also 400/240GB.	May 2003
★★★★/8.0	Xserve RAID, Apple, £8,999 including VAT. Impressive 2.52TB server-storage solution.	Oct 2003

External CD/DVD drives (all inc. VAT).

★★★★/8.5	Bravo Disc Publisher, Primera, 01789 415 898 or 0870 870 1220, from £1,700. CD/DVD duplicator that also prints disc labels.	Oct 2003
★★★★/7.7	Boa FireWire DVD-RW, EZQuest @ Channel Dynamics, 0870 607 0540, £317. DVD-R that offers solid performance.	May 2003
★★★★/8.6	d2 FireWire DVD-Rewritable Drive, LaCie, 020 7872 8000, £304. Includes CaptyDVD 1 Mac DVD-authoring software.	May 2003
★★★★/8.6	Deviden, Formac, 020 8533 2489, £304. DVD-R that includes Devideon 2 Mac DVD-authoring software.	May 2003
★★★★/7.4	DVD Revo FireWire SuperDrive 4x, Cyclone, @ Comput8, 0800 018 6625, £363. DVD-R that offers solid performance.	May 2003

Card readers (all inc. VAT).

★★★★/7.9	Media Reader, Belkin, 0800 2235 5460, £89 (inc. VAT). Multi-format storage-card reader for dock-equipped iPods.	Expo 2003
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Upgrade cards (all inc. VAT).

★★★★/5.9	PowerForce G4 ZIF 550/220, PowerLogic, www.powerlogic.com (see Int'l), £259. For beige G3, blue-8-white G3, pre-AGP G4	March 2003
★★★★/5.8	PowerForce G4 Series 100 1GHz, PowerLogic, www.powerlogic.com (see Int'l), £630. AGP and Gb Ethernet PMG4s, Cube	March 2003
★★★★/5.6	PowerForce Dual G4 800MHz, PowerLogic, www.powerlogic.com (see Int'l), £690. AGP and Gb Ethernet PMG4.	March 2003
★★★★/5.5	PowerForce Dual G4 1GHz, PowerLogic, www.powerlogic.com (see Int'l), £1,030. AGP and Gb Ethernet PMG4.	March 2003
★★★★/7.5	Encore/ZIF G4 500, Sonnet, www.sonnettech.com (see Int'l), £259. Beige G3, blue-8-white G3, Pre-AGP G4.	March 2003



If you need to get printed images into your Mac, but you don't have a digital camera or want to put your old photos on the Web, you need a scanner. Before buying a scanner you must consider the final output you're aiming for. If your job is for a glossy magazine, then a high-resolution drum scanner is what you need.

It's more likely, though, that that kind of scanning would be done by a pre-press house or a bureau. Some high-end flatbed scanners are actually approaching drum-scanner quality. Some professional scanners require a SCSI interface, so new Macs will require that a SCSI card be added. However, manufacturers are now adding FireWire and USB 2.0 interfaces to their top scanners.

You can buy a dedicated slide scanner or attach an optional slide tray to your flatbed. Some scanners have neat internal trays for ease of use.

If your needs are less great, there are many fair-quality low-end scanners at unbelievably cheap prices. Again, claims for quality are often based on resolution. Look at the optical resolution rather than the interpolated resolution, as interpolation is just a process of digitally enlarging the scan. Make sure that the connection (USB, SCSI or FireWire) is right for your Mac. Scanners often come with bundled software to let you manipulate the images once you have scanned them.



Hard drives: It's easy to add extra internal hard disks to Power Macs, but other Macs are better served with external drives. All new Macs come with FireWire connections, which are much faster than USB. You can buy portable FireWire hard drives that you can carry around with you, and also larger, faster drives that sit on the desktop. Buy FireWire 800 drives if your Mac has this super-fast port. Go for the fastest rotational disk speed (measured in rpm), and divide the price by the number of gigabytes to find the price per GB. Buy as big as you can now, to save having to buy again later.

Removable disks: Apple has turned its back on the now defunct 1.4MB floppy (what do you think email is for?) but you can still add a USB floppy drive for about £60.

Zip drives are still used for backup. The 250MB Zip supports original 100MB disks, and the 750MB model reads and writes 750MB and 250MB disks, and reads all 100MB disks. Despite the convenience of the format, it's relatively expensive and less popular now that most Macs have some kind of optical storage as standard.

Subscribers to Apple's .Mac services (£65 per year) get 100MB of iDisk Web storage space, which can be used to quickly move data around the world.

CD/DVD: Optical storage technologies (CD-R, CD-RW, DVD-R and DVD-RAM) have become increasingly viable alternatives as prices fall dramatically. While stable and cheap – a blank 650MB CD-R sells for 45p – writing to a CD or DVD-RAM can be slow. CD-R is a write-once technology. But, unlike Jaz and Zip disks, dishing out CDs to friends or clients isn't financially painful. Your best CD choice may be a CD-RW (rewriteable) drive, which is a CD-R drive with the added ability to handle rewriteable media.

DVDs can hold 5.2GB of data, and the drives can read standard CDs. Watch movies on your Mac and play the latest multimedia DVDs. SuperDrive Macs can record DVDs that will play in domestic players. Apple's iDVD tool makes Macs so much better than Windows PCs in this regard. **MW**



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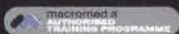
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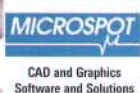
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Andy Ihnatko



What's so special about the Mac's 20th birthday? Nothing, really...

Birthday baloney

'The moment we saw your smiling face for the first time, we knew that here was a platform that was different, revolutionary, ambitious; here was a computer that would go on to do great, great things.'

So! The Macintosh is 20 years old today. Well! Well, well, well! It's hard to get all worked up over a 20th birthday. It's a nice round number, but what does it really signify? It'll be different next year, of course. That's the big 21; the Macintosh will be able to legally drink in its home country. Even there, the milestone is a little underwhelming. Among his peer group, the Macintosh is definitely one of the Cool Kids who sneaks liquor out of his parents' garage. And thanks to his position in the creative graphic arts community, you're not going to tell me that the Mac doesn't have one hell of a good fake ID.

The Big Two-Oh is of greater interest to the Mac's family than to the Mac itself. Right about now, the Mac is listening to the last few lines of "Happy Birthday," sheepishly glancing around the table, not knowing where to look, hoping to just blow out the candles and get it over with.

Mom gets up to speak. "Oh, of course, every product line of ours is special," she begins, acknowledging the many beige, platinum, and funkadelic-coloured boxes seated around the table. "But the moment your release date arrived and we saw your smiling face for the first time, we knew that here was a platform that was different, revolutionary, ambitious; here was a computer that would go on to do great, great things."

A snort is heard from the corner of the table, but no one in the room wants to glance in Lisa's direction.

"Remember back when you were what, two, maybe three years old?" says an uncle. "It seems like a day didn't go by when you didn't come home crying. 'All the other kids in the catalogue keep calling me too expensive and underpowered!' or 'If I had the smallest software library of the whole industry, you'd tell me, right?'"

"Of course, we told you it was all nonsense, even though those other kids had it more or less on the money," he continues, helping himself to another slice of cake. "Made you into an arrogant little cuss – but hey, it convinced you to keep going out there and acting like a fully mature hardware platform, didn't it? All's well that yadda yadda yadda."

"But that didn't last forever, did it?" An aunt, this time. "When you finally hit, boy, did you hit! You created whole new markets! Nobody even considered moving all of a company's publishing jobs in-house before you stormed in there and just plain announced that you could handle it!"

Lisa is whispering something to the Apple ///+, who's nodding and brooding.

"And now, our Mac is the most popular, powerful and accessible Unix on the planet," Mom beams. "Mind you, when you came out to your Father and me as an open-source microkernel – even a partial one – we worried about you all over again."

"It wasn't about you," Dad rushes to say, earning an

emphatic nod from Mom. "We were shocked about your new direction, of course, but we were more worried about people would treat you. People have so much hatred and fear about Unix. I know it's only due to ignorance, but that certainly didn't help the Dell's next door, when their Inspiron came back from college booting Linux. But we know that this wasn't your choice; Unix is how you were made, not how you were upgraded." Happy nods all around.

The Apple ///+ clears her throat.

"Indeed. What courage you displayed while you started your new life. But then, you've always been the courageous one, weren't you? I can't imagine that I would have had the same strength, through your... well, your troubles."

The temperature of the room dropped four degrees and the only sound was that of the family dog happily snarling up the slice of cake that had dropped to the floor through fingers limp from shock.

"After all," the ///+ continues, brightening, "it was the Nineties. Who could blame you for becoming a licensed OS, renting yourself out for every and any company with a chequebook and an empty set of PROMs to shack up in."

"Yes, didn't you shack up with IBM for a while, too? Or am I thinking of that Advanced Technology Group project where you were running around on Intel hardware?"

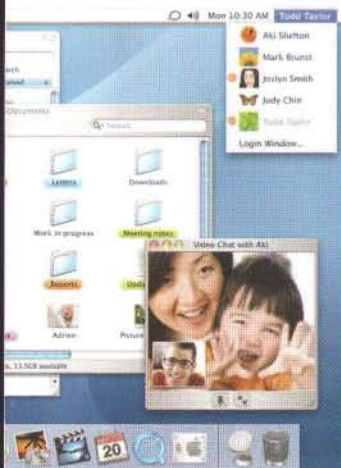
"Mmm. Well, again, that's only to your credit," Lisa concludes, raising her glass. "That's all behind you and you're all the stronger for the tears that you – and our poor Mom and Dad – have shed. Here's to long life and happiness."

The party ends with a half-hearted clinking of glasses and an unspoken determination among all the individuals at the table that this year, Christmas will be spent at the houses of friends and in-laws.

So what does 20 years mean to we, the users? Nothin'. I'm happy to say it: nothing. 1989 was big news; the 5th-anniversary celebrations were so ambitious that my only clear recollections of it are of a cop eventually handing my wallet, belt, and shoes back to me in a big manila envelope and telling me I was free to go. Ten years was a little more subdued; I lost most of my blue/green vision for the better part of the week, but was still largely ambulatory.

Fifteen years was a quiet lunch with friends. Twenty years? I didn't even realize it until my editors reminded me. That's not a sign that our passion for the Mac has waned. It's a sign that survival is no longer a miracle. After 20 years of this, we're no longer the upstarts, the alternatives, the niche OS. We're here and barring one of those comic-book situations in which Superman's exposed to Red Kryptonite and there's a tremendous flash and all of a sudden there's a huge copper effigy of King George III where the Statue of Liberty used to be, the Macintosh isn't going anywhere. And that's cause for celebration any day.

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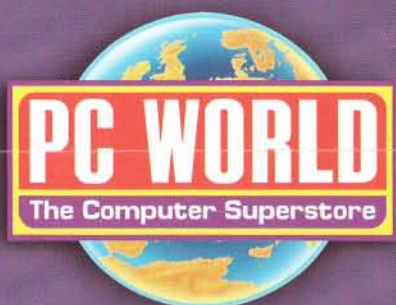
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